United States Department of Agriculture

Natural Resources Conservation Service

In cooperation with United States Department of the Interior, Bureau of Land Management; United States Department of Agriculture, Forest Service; Oregon Department of Forestry; Oregon State University, Agricultural Experiment Station; and Tillamook County Soil and Water Conservation District

Soil Survey of Tillamook County, Oregon

How To Use This Soil Survey

General Soil Map

The general soil map, which is a color map, shows the survey area divided into groups of associated soils called general soil map units. This map is useful in planning the use and management of large areas.

To find information about your area of interest, locate that area on the map, identify the name of the map unit in the area on the color-coded map legend, then refer to the section **General Soil Map Units** for a general description of the soils in your area.

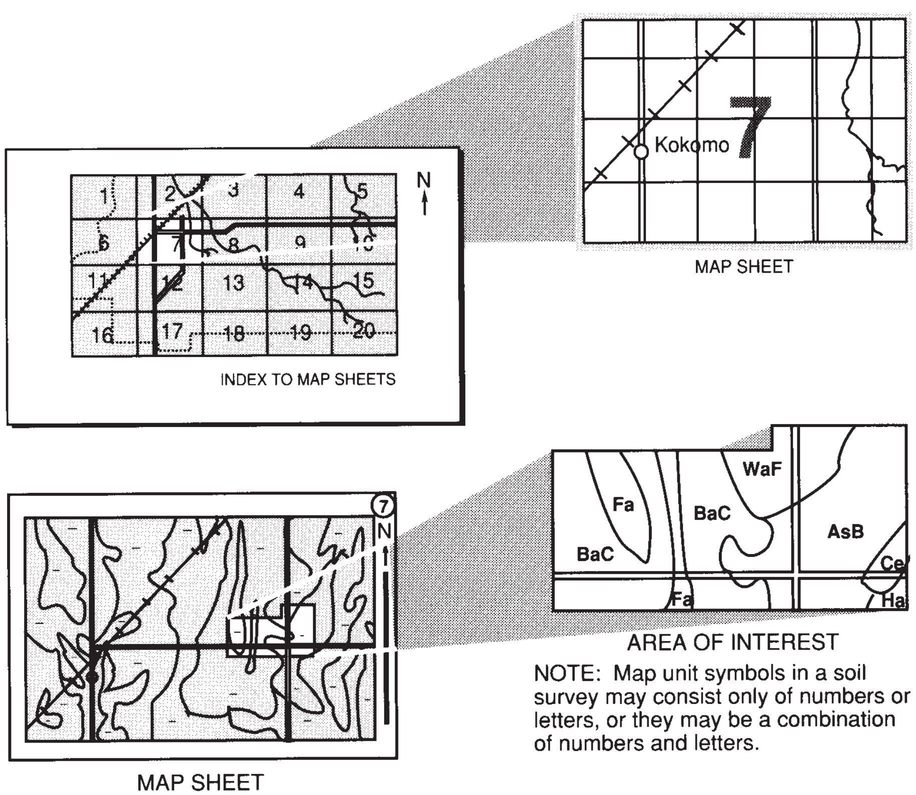
Detailed Soil Maps

The detailed soil maps can be useful in planning the use and management of small areas.

To find information about your area of interest, locate that area on the **Index to Map Sheets**. Note the number of the map sheet and turn to that sheet.

Locate your area of interest on the map sheet. Note the map unit symbols that are in that area. Turn to the **Contents**, which lists the map units by symbol and name and shows the page where each map unit is described.

The **Contents** shows which table has data on a specific land use for each detailed soil map unit. Also see the **Contents** for sections of this publication that may address your specific needs.



NOTE: Map unit symbols in a soil survey may consist only of numbers or letters, or they may be a combination of numbers and letters.

National Cooperative Soil Survey

This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (formerly the Soil Conservation Service) has leadership for the Federal part of the National Cooperative Soil Survey. This survey was made cooperatively by the Natural Resources Conservation Service and the United States Department of the Interior, Bureau of Land Management; United States Department of Agriculture, Forest Service; Oregon Department of Forestry; Oregon State University, Agricultural Experiment Station; and Tillamook County Soil and Water Conservation District. The survey is part of the technical assistance furnished to the Tillamook County Soil and Water Conservation District.

Major fieldwork for this soil survey was completed in 2005. Soil names and descriptions were approved in 2006. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 2006. The most current official data are available at http://websoilsurvey.nrcs.usda.gov/app/

Soil maps in this survey may be copied without permission. Enlargement of these maps, however, could cause misunderstanding of the detail of mapping. If enlarged, maps do not show the small areas of contrasting soils that could have been shown at a larger scale.

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Cover Caption

Looking east toward the city of Tillamook and across the Tillamook Valley to the Coast Range in northern Oregon.

Additional information about the Nation's natural resources is available online from the Natural Resources Conservation Service at http://www.nrcs.usda.gov.

Contents

Issued July 2013

Foreword

Soil surveys contain information that affects land use planning in survey areas. They include predictions of soil behavior for selected land uses. Farmers, ranchers, foresters, and agronomists can use the surveys to evaluate the potential of the soil and the management needed for maximum food and fiber production. Planners, community officials, engineers, developers, builders, and home buyers can use the surveys to plan land use, select sites for construction, and identify special practices needed to ensure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the surveys to help them understand, protect, and enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. The information in this report is intended to identify soil properties that are used in making various land use or land treatment decisions. Statements made in this report are intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://soils.usda.gov/sqi/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (http://offices.sc.egov.usda.gov/locator/app) or your NRCS State Soil Scientist (http://soils.usda.gov/contact/state_offices/).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

These and many other soil properties that affect land use are described in this soil survey. The location of each map unit is shown on the detailed soil maps. Each soil in the survey area is described, and information on specific uses is given. Help in using this publication and additional information are available at the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

Ron Alvarado
State Conservationist
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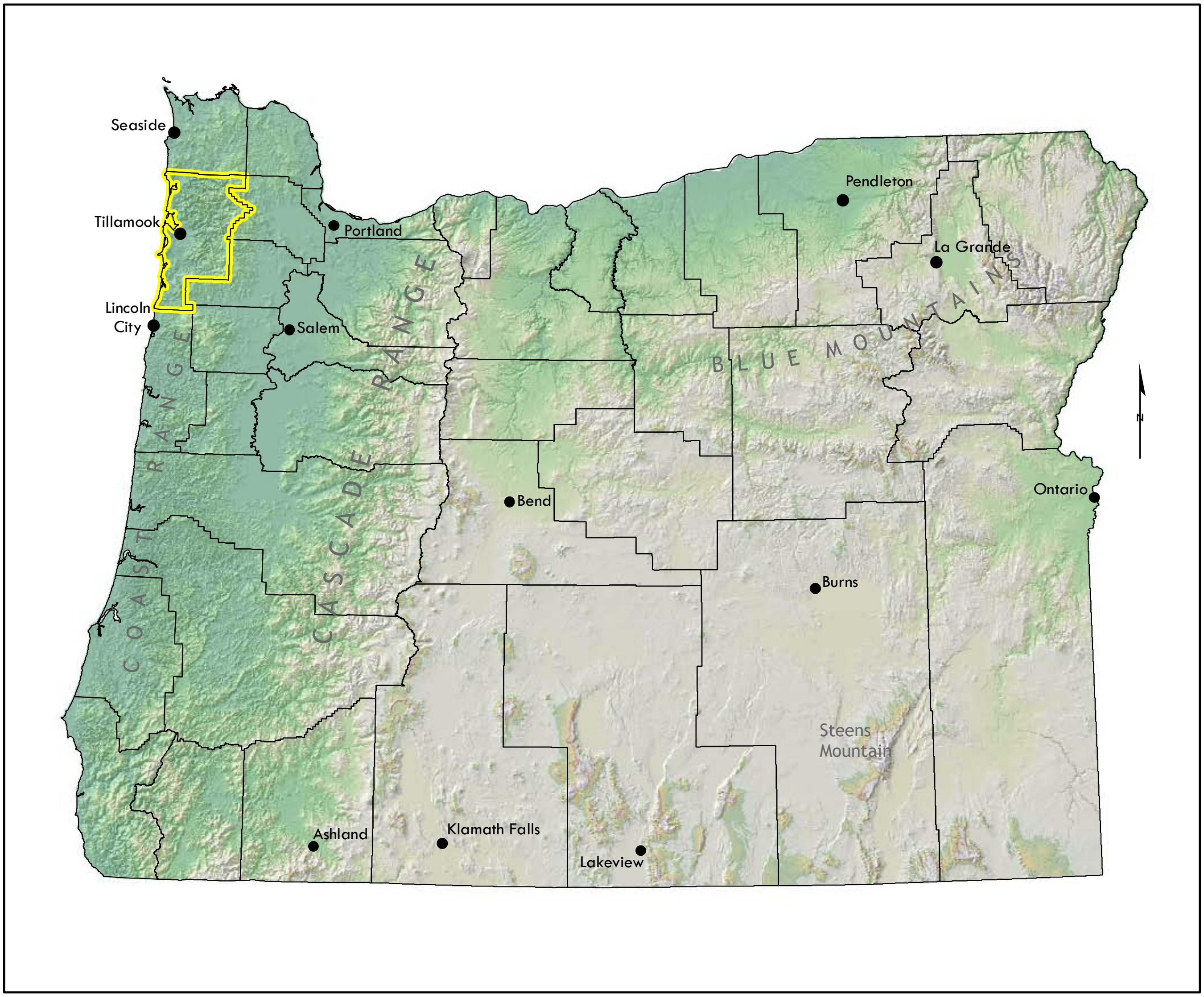

Location of Tillamook County in Oregon.

Soil Survey of
Tillamook County, Oregon

By Matthew H. Fillmore and John A. Shipman, Natural Resources Conservation Service

Fieldwork by John A. Shipman, Christopher D. Jasper, Cory C. Owens, and Kelly D. Paup-Lefferts, Natural Resources Conservation Service

United States Department of Agriculture, Natural Resources Conservation Service,
in cooperation with
United States Department of the Interior, Bureau of Land Management; United States Department of Agriculture, Forest Service; Oregon Department of Forestry; Oregon State University, Agricultural Experiment Station; and Tillamook County Soil and Water Conservation District

Tillamook County is along the northwestern coast of Oregon. The survey area includes the entire county, which totals 720,147 acres, or about 1,103 square miles. Of this, about 266,000 acres is State land that is administered by the Oregon Department of Forestry; 292,147 acres is private land; 142,000 acres is Federally administered land; 5,000 acres is owned by the county, and 15,000 acres is water (USDA, 1990). About 50,000 acres of the Federal land is managed by the Bureau of Land Management, and about 92,000 acres is administered by the Forest Service (Loy and others, 2001). Tillamook is the county seat. The county has a population of about 25,250, making it twenty-second among Oregon's 36 counties (U.S. Department of Commerce, 2012). Tillamook County is bordered on the north by Clatsop County; on the east by Washington and Yamhill Counties; on the south by Lincoln, Yamhill, and Polk Counties; and on the west by the Pacific Ocean. The survey area is in two major land resource areas—Northern Pacific Coast Range, Foothills, and Valleys and Sitka Spruce Belt (USDA, 2006).

Seven major rivers drain the county into three bays at its western margin. The Nehalem River in the northern part of the county flows into Nehalem Bay; the Miami, Kilchis, Trask, Wilson, and Tillamook Rivers in the central part flow into Tillamook Bay (fig. 1); and the Nestucca River in the southern part flows into Nestucca Bay. With the exception of the Tillamook River, these major drainageways generally flow east to west. The Tillamook River flows south to north.

The coastal plain landscape along the western edge of Tillamook County consists of beaches, dunes, sand spits, estuaries and tidal flats, alluvial flood plains, stream terraces, marine terraces, fluviomarine terraces, low rolling hills, foothills, and mountains. The fluviomarine terraces are in areas where the coastal streams merge into the marine terraces and estuarine areas. The low, rolling hills are above the valley floors, and the foothills are along the eastern margin of the coastal plain where they

Figure 1.—Tillamook Bay Estuary adjacent to Tillamook Bay in background. Fluvaquents-Histosols complex, 0 to 1 percent slopes, supports the reddish brown vegetation, and Fluvaquents-Histosols complex, 0 to 1 percent slopes, diked, supports the adjacent grayish green vegetation. Coquille-Brenner-Nehalem association, 0 to 3 percent slopes, protected, is in left foreground, and Coquille silt loam, 0 to 1 percent slopes, is in right foreground.

merge with the rugged, steep, sharply dissected, forested mountains of the northern Coast Range (fig. 2).

The central and western parts of the survey area are dissected by the Nehalem River in the northern area, the Miami, Kilchis, Trask, Wilson, and Tillamook Rivers in the central area, and the Nestucca River in the southern area. The Salmon River flows out of Tillamook County into the Salmon River Estuary near Cascade Head in Lincoln County (fig. 3). These streams flow through steep, narrow canyons downcut through the rugged volcanic and interbedded sedimentary mountains through the alluvial valleys, cutting through sedimentary coastal foothills to the west, and eventually empty into large bays adjacent to the Pacific Ocean.

The eastern part of the county is drained by tributaries of the South Yamhill River and North Yamhill River along with Gales Creek in the northeastern part. Elevation ranges from sea level along the beaches to 3,706 feet on Rogers Peak, the highest point in the county.

Two older surveys of parts of Tillamook County have been published. The soil survey of the Tillamook Burn Area, Oregon, was published in 1957 (USDA, 1957). It covers 32,640 acres of Tillamook County that was burned during a forest fire. The soil survey of Tillamook Area, Oregon, was published in 1964 (USDA, 1964). It covers 141,920 acres along the Pacific Coast and in the river valleys. This current National Cooperative Soil Survey report for Tillamook County updates these earlier surveys and provides soil maps of greater detail. It includes additional information to better define, classify, and interpret the soils in order to meet the current needs of the users.

Descriptions, names, and delineations of soils in this soil survey do not fully agree with those on soil maps for adjacent survey areas. Differences are the result of better knowledge of soils, modifications in series concepts, intensity of mapping, or the extent of soils within the survey.

Figure 2.—View of the Tillamook Valley from Tillamook State Forest. Klootchie and Necanicum soils are in foreground. Tolovana-Templeton medial silt loams, 5 to 30 percent slopes, and Munsoncreek-Flowerpot complex, 5 to 30 percent slopes, are on the low ridge adjacent to the Tillamook Air Museum. Memaloose Point is on the left side of Tillamook Bay, and the community of Juno is at the base of the mountains on the right side of the bay.

General Nature of the Survey Area

Cory C. Owens, resource soil scientist, Natural Resources Conservation Service, assisted in writing this section.

This section provides general information about the survey area. It describes history and development; natural resources; physiography, relief, and drainage; biotic systems; and climate.

History and Development

This section is summarized from writings by Ada M. Orcutt, unless otherwise noted.

The coastal region that was to become Tillamook County was originally inhabited by three Native American tribes—the Nehalem Tribe in the northern part of the county near Nehalem Bay, the Tillamook Tribe near the central part of Tillamook Bay, and the Nestucca Tribe in the southern part of the county, along the Nestucca River (Orcutt, 1951). These people were of the Salishan linguistic group and were expert canoe craftsman, basket weavers, hunters, and gatherers. The indigenous meaning of the word “Tillamook” is “land of many waters.”

Early Settlement

The first documented encounter between the tribes and white explorers was in August of 1788, when Captain Gray of the *Lady Washington* sailed into Tillamook Bay. After a scuffle with the natives, the explorers departed. The next documented encounter occurred when William Clark of the historic Lewis and Clark Expedition ventured south from Fort Clatsop in the winter of 1806 to procure whale blubber from the natives near Nehalem Bay. Several years after Clark’s visit, the first official white

Figure 3.—Cascade Head and the Salmon River Estuary. Salander-Necanicum complex, 30 to 60 percent slopes, and Salander-Necanicum-Neskowin complex, 60 to 90 percent slopes, are in the open grassland areas, and Tolovana-Reedsport complex, 35 to 60 percent slopes, is in the forested areas.

settler, Joe Champion, came on a whaling vessel and lived in the area from April 2, 1851, until mid-May. He is famous for declaring that his hollow spruce tree shelter was his castle. He later returned to the area and lived out the rest of his life. Beginning in 1851, other early pioneers in the area included Henry W. Wilson, Elbridge Trask, Warren Vaughn, and Nathan Dougherty.

Early settlers enjoyed a peaceful relationship with the tribes, commonly relying on their expert canoeing skills for efficient transportation of goods and people across the rivers and bays. Chief Kilchis of the Tillamook Tribe stands out in history as a fair and honest leader who worked hard to sustain a positive relationship with the settlers.

In 1853, Tillamook became the twelfth county in Oregon to be organized by the Territorial Legislature. It was established from parts of Clatsop, Yamhill, and Polk Counties. In 1866, the town of Lincoln was renamed Tillamook. In 1873, Tillamook was named the county seat (Oregon Blue Book, 2011-2012).

Transportation

Early settlers to Tillamook County faced many challenges; the most significant was the unreliable and difficult land and sea transportation. Regular shipping commonly was hindered by the dangerous and difficult river bar crossings. Captain Meares was one of the early ship captains to brave the crossing into Tillamook Bay and bring desperately needed staples to settlers and transport butter produced by the settlers to markets in Astoria and Portland. In the fall of 1854, settlers began building a boat in an attempt to better control the flow of supplies. The Morning Star of Tillamook was launched on January 1, 1855. Unfortunately, the Morning Star had to be sold the following spring to cover expenses. Over the years, several attempts were made to operate locally owned freight boats but eventually all failed. Early residents of Tillamook County relied primarily on shipping for both freight and passenger transportation until the railroad was completed in 1911.

Ground transportation was equally challenging. The route across and around Neahkahnie Mountain (fig. 4) in the northern part of the county was perilous, with treacherous dropoffs that were difficult for both men and pack animals to navigate. In the early 1900's, State Highway 53 connected the majority of Tillamook County to the northern end. In the mid 1900's, U.S. Highway 101 was constructed around Neahkahnie Mountain. From 1871 until 1911, the Trask River toll road ran over the Coast Range to Yamhill in the Willamette Valley, primarily carrying mail and passengers. After 1911, mail was delivered by train. Over the years, several roads were built and maintained intermittently in the southern part of the county with varying degrees of success. The roads were difficult to construct and maintain because of the wet climate, unstable slopes, and strong winter storms. The abundant streams and rivers in the county impeded road construction until bridges could be built. To make conditions passable in winter, the county purchased a portable sawmill in 1899 and began laying wood planks as road surfaces. The Wilson River Road, or State Highway 6, was completed in 1941 after the devastation of the Tillamook Burn highlighted the need for better access through the mountains.

Dairy

The first settlers in Tillamook County recognized the ideal climatic, soil, and vegetative conditions for raising livestock, especially dairy herds (fig. 5). Butter was the first dairy product to be exported from the county, but the unreliable transportation led settlers to produce cheese because it is less fragile. Peter McIntosh is credited as the father of the cheddar cheese industry in Tillamook County. He settled in Tillamook in 1894 and built cheese factories. Several other locally owned cheese factories were also established. These small local factories competed against each other until Carl Haberlack arrived in 1902. His business skills were quickly recognized by the various cheese cooperatives throughout the county, and he began working for

Figure 4.—View of Neahkahnie Mountain from Cape Falcon.

Figure 5.—Dairy herd in Tillamook Valley.

several of them as secretary and business agent. In 1909, Haberlack helped organize a cheese inspection corporation in order to standardize the quality control and business negotiation. This corporation exists today as the Tillamook County Creamery Association, producing various dairy products sold worldwide.

Fishing

The annual return of salmon was an important event for the native people of Tillamook County. They greeted the salmon with much ceremony and superstition. When settlers first came, they relied heavily on fishing for survival. Commercial fishing of the fall runs of salmon began with Captain Meares in 1852. Canneries and packing facilities were established throughout the county, and canned salmon was shipped worldwide. Commercial and sport fishing are still important industries in the county today, and the salmon numbers are closely monitored. Clams, oysters, and crabs have been harvested both commercially and recreationally from the many bays in Tillamook County throughout history.

Timber

Timber is the most abundant resource in Tillamook County. The timber industry has seen many cycles of prominence and decline over the years, but it remains an important part of the economy of the county.

Early settlers cleared the land by hand, but they were not necessarily interested in the economic value of the timber. When the timber industry began, it was constrained by technology and logistics. Timber near rivers and streams was the first to be logged and floated down to the mills. When oxen were introduced into the logging industry, trees farther from the streams could be cut and dragged to the water. In 1890, with demand growing in the eastern part of the United States and the introduction of the donkey engine, the timber industry began to develop rapidly. The donkey engine

allowed operators to harvest trees in the mountains, even farther from the streams. Several mills have gone in and out of operation during the long history of logging in the county.

In 1933, 1939, 1945, and to a lesser extent 1951, devastating forest fires ravaged the forests of Tillamook County (Oregon Department of Forestry, 1983). About 355,000 acres were burned, and 13.1 billion board feet of timber was destroyed. Salvage operations continued for years, and intense rehabilitation and reforestation projects continued into at least the late 1960's. The area most impacted environmentally and economically by the burns became what is now the Tillamook State Forest and is managed by the Oregon Department of Forestry. These fires were of National significance, and the reforestation efforts undertaken were recognized as revolutionary for the time.

Natural Resources

The natural resources of the county include water, wildlife, soil, fisheries, and timber. The intricate rivers and streams that crisscross the county provide habitat for a variety of fish and supply water for many domestic uses. Common fish species include Chinook and Coho salmon, steelhead trout, and sturgeon. Tillamook Bay provides winter habitat for nearly 25 percent of the northern and central coast waterfowl populations in Oregon (Audubon Society of Portland, 2009). Tillamook Bay is recognized as one of twenty-eight National Estuary Projects (fig. 6) (U.S. Environmental Protection Agency, 2009). The National Estuary Program was established in 1987 by the Environmental Protection Agency to improve the quality of estuaries of National importance. Three National wildlife refuges are along the coast in the county—Three Arch Rocks, Cape Meares, and Nestucca Bay (USDI, 2009). In addition, Oregon Islands National Wildlife Refuge includes all the small seastacks and islands along the Tillamook County coastline and the rest of the Oregon Coast (fig. 7). These areas provide habitat for countless avian species, fish, and rare plants, including the northern spotted owl, bald eagle, marbled murrelet, Aleutian Canada geese, and Stellar sea lion. Deer, elk, and bear inhabit the mountains along with various birds and smaller mammals. The soils in the valleys of Tillamook County are used primarily for growing pasture grasses to use as feed in the dairy industry and other agricultural interests and for producing timber in the nearby forested mountains. Holstein and Jersey dairy cows are the main milk producers, but Guernsey, Brown Swiss, and Dutch Belted dairy cattle are also raised in the county. Other agricultural commodities in the county include a limited acreage of artichokes and some flowers for cutting. Because of the accessibility to the Pacific Ocean and the many bays along the coastline, development and support of commercial and recreational fishing ventures has occurred readily. Tillamook and Netarts Bays support oyster farms. Crabbing, both commercially and recreationally, takes place in the bays and the Pacific Ocean. The moderate coastal climate provides ideal growing conditions for timber. Douglas-fir and western hemlock are the dominant species grown commercially. Other natural resources include gravel harvested from the streams and rock from quarries in the Coast Range. This material has a variety of uses in construction.

Physiography, Relief, and Drainage

Tillamook County is characterized by steep, rugged mountains drained to the west through narrow stream valleys. Other landforms or features in the county include coastal hills; headlands; broad, low-gradient coastal stream valleys; marine terraces; fluviomarine terraces; tidal marshes; bays; dunes; sand spits; and beaches. Elevation ranges from sea level along the coast to 3,706 feet on Rogers Peak, which is in the steep, rugged interior mountains in the northeastern part of the county.

Figure 6.—Tillamook Bay tidal flats, estuaries, and wetlands. The unprotected areas are submerged at high tide; the diked areas (brownish green areas) are subject to frequent, brief periods of flooding, have a high water table, and are not subject to tidal influence; and the protected areas (brighter green areas) are subject to rare periods of flooding and are rarely affected by tidal fluctuations. The water table in the protected areas has been lowered and maintained by drainage pumps. The surface layer in these areas has a tendency to become more acid after the water table has been lowered.

Figure 7.—Small seastacks that are part of the Oregon Islands National Wildlife Refuge.

The mountains generally lie north of the Nestucca River and are dominantly composed of extrusive and intrusive igneous rock with minor amounts of sedimentary rock. South of Neahkahnie Mountain in the northern part of the county to Cape Lookout in the southern part, sedimentary rock is dominant in the coastal hills along the western edge. Sedimentary rock, igneous rock, and interbedded igneous and sedimentary rock make up the mountainous and hilly areas south of the Nestucca River.

Seven major rivers drain the county to the west, dominantly through the steep, rugged, forested mountains with many prominent peaks and ridges, into three bays—the Nehalem River in the north flows into Nehalem Bay; the Miami, Kilchis, Wilson, and Tillamook Rivers in the central part flow into Tillamook Bay; and the Nestucca River in the south flows into Nestucca Bay. Streams generally flow from east to west, but the Tillamook River flows south to north. The upper and middle reaches of these watersheds are drained through narrow stream valleys with narrow flood plains, terraces, fans, and mountain toeslopes. Narrow stream valley alluvial fans are subject to damaging debris flow deposits during periods of high precipitation. In the lower reaches of the watersheds, the stream gradients are lower and the flood plains and terraces are broader. The flood plains can receive deposits of sand, silt, and logs and other woody debris during periods of high precipitation. Stream flood plains are broadest in areas influenced by the tides. During the rainy season, these areas are subject to a greater risk of flooding during high tide.

After the streams flow through the narrow canyons and coastal foothills, they enter the relatively broad coastal valleys with associated flood plains and terraces. They then spread out through estuarine tidal flood plains, tide flats, and bays, which then empty into the Pacific Ocean. Unless the estuarine tidal marshes and associated soils along the fringes of the bays are protected by dikes and tide gates, they are subject to brief periods of inundation during high tide throughout the year.

Five major headland areas separate the narrow coastal plains into discrete topographical units—Cape Falcon (fig. 8) in the north; Cape Meares (fig. 9) and Cape Lookout along the central coast of Tillamook County; and Cape Kiwanda and Cascade Head in the south. Cape Kiwanda was once known as Sand Cape; however, the name was changed to Kiwanda to honor a local Nestucca Indian chief (McArthur, 2003).

The coastal plain landforms include beaches, dunes, sand spits, bays, marine terraces, and fluviomarine terraces in areas where the alluvial stream environment meets the marine environment. Bays and estuaries in the county include Nehalem Bay in the northern part, Tillamook and Netarts Bays along the central coast, and Sand Lake and Nestucca Bay in the southern part.

Biotic Systems

Environmental factors, such as soils, precipitation, and plant cover, and human-related activities, such as land use, result in a variety of biotic patterns across the landscape. Some patterns are the result of an interaction of factors. For example, urban areas, grain fields, pastures, and second-growth forests are present because of human interaction with factors such as topography, soil fertility, availability of moisture, climate, and transportation networks. Despite the complexity of the overall mosaic, there are recognizable trends on the landscape and a geographic or spatial framework can be defined to describe these trends (Omernik and Gallant, 1989). A spatial framework describes regions, or more or less homogeneous areas where pattern variations within a region are less than those between regions (Hart, 1982).

Various spatial framework systems are needed to organize and categorize the land administered by local, state, and Federal land managers. For natural resource management, areas commonly are delineated based on ecological and geographical breaks. Tillamook County is divided into several varying categories, including

Figure 8.—View of Cape Falcon with Smugglers Cove in foreground. Rock outcrop-Ascar complex, 40 to 100 percent slopes, is on the steep side slopes of the cape.

watersheds; U.S. Environmental Protection Agency (EPA) ecoregions; and Natural Resource Conservation Service land resource regions (LRRs), major land resource areas (MLRAs), and common resource areas (CRAs). These divisions may or may not conform to political boundaries.

Hydrologic units or watersheds were originally introduced as a spatial framework to facilitate water resource planning and management. Each zone in the framework is clearly defined by the drainage pattern of the surface water. This framework is widely used in natural resource management (Hulse and others, 2002). Watersheds are areas that drain to a common waterway such as a stream, lake, wetland area, or aquifer. Watersheds commonly are supported locally. The Nehalem River watershed in the northern part of the county is supported by the Upper Nehalem and Lower Nehalem Watershed Councils. The Miami, Kilchis, Wilson, Trask, and Tillamook River watersheds in the central part are supported by the Tillamook Bay Watershed Council. The Nestucca, Neskowin, and Sand Lake watersheds in the southern part are supported by the Nestucca-Neskowin-Sand Lake Watersheds Council.

Another type of spatial framework is based on ecoregions, or ecologically distinct areas that are the result of varying influences and differences in environmental resources, ecosystems, and human interactions (Omernik, 1995). Ecoregions, as defined by the EPA, include causal and integrative components of physiography, geology, soil, climate, potential vegetation, land use, and land cover. The importance of each of these factors differs from one place to another. The broadest definition is that of Level I ecoregions, comprising 15 regions in North America. These ecoregions are subdivided into 52 Level II ecoregions and 104 Level III ecoregions (Commission for Environmental Cooperation, 1997). Level IV ecoregions have been delineated at a scale of 1:250,000 (Pater and others, 1998).

Figure 9.—View of Cape Meares. Ascar-Necanicum-Rock outcrop complex, 60 to 90 percent slopes, is on the steep side slopes, and Tolovana-Templeton medial silt loams, 5 to 30 percent slopes, is on the ridgetop.

EPA ecoregions are developed on the premise that ecological regions can be identified through the recognition of similar spatial patterns and composition of biotic and abiotic factors that affect or reflect differences in ecosystem quality and integrity (Thorson and others, 2003). These factors include geology, physiography, vegetation, climate, soils, land use, wildlife distribution, and hydrology.

All of Tillamook County is in the Level III Coast Range ecoregion. The entire Coast Range ecoregion is subdivided into seven Level IV ecoregions, five of which are in Tillamook County. The dominant Level IV ecoregions in the county include Coastal Lowlands (1a), Coastal Uplands (1b), and Volcanics (1d). There are also small areas of the Willapa Hills (1f) and Mid-Coastal Sedimentary (1g) Level IV ecoregions. The westernmost fringe of the county, which encompasses the beaches, dunes, estuaries, tidal flats, and marine terraces below an elevation of 400 feet, are in the Coastal Lowlands ecoregion. The Coastal Uplands ecoregion (fig. 10) includes the headlands and low hills and mountains that surround the Coastal Lowlands ecoregion on the western edge of the county. The Volcanics ecoregion (fig. 11) includes most of the Coast Range in Tillamook County. The Willapa Hills ecoregion is along the northeastern border. It has more rolling topography and less complex drainage than the Volcanics ecoregion. The Mid-Coastal Sedimentary ecoregion is in the extreme southeastern corner of the county, and it includes the part of the Coast Range that is outside the coastal fogbelt zone and typically is underlain by sedimentary rock.

Ecoregions do not conform to watershed boundaries. For example, the Willamette River Basin includes the Level III Willamette Valley ecoregion and parts of the Coast Range and Cascades ecoregions (Hulse and others, 2002).

Figure 10.—Coastal Uplands ecoregion. Inland from the beaches are sandy soils such as the Waldport, Netarts, Heceta, and Yaquina series on low dunes and Templeton, Ecola, Klootchie, Necanicum, and Ascar soils on the mountains in the distance.

The Natural Resources Conservation Service recognizes several levels of resource management areas for a variety of land use planning purposes. The appropriate level is dependent upon the intensity of planning (local, state, regional, or National). LRRs are made up of geographically associated MLRAs, which approximate broad agricultural market regions. MLRAs are made up of geographically associated CRAs (USDA, 2006). CRAs are geographic areas based on landscape conditions, soils, climate, human considerations, and other natural resource information (USDA, 2009). The resource issues and concerns, environmental issues, and treatment needs generally are similar within each CRA.

Tillamook County is in A—Northwestern Forest, Forage, and Specialty Crop land resource region (USDA, 2006). The MLRAs in the county are 4A—Sitka Spruce Belt along the western coastal margin and 1—Northern Pacific Coast Range, Foothills, and Valleys in the rest of the county. The CRAs in the county are 1.1, 1.6, 4A.1, 4A.2, and 4A.3 (McGrath, 2004). CRAs 1.1 and 1.6 are outside the coastal fogbelt, in the interior mountains (fig. 12). CRA 1.1 is underlain by volcanic rock, and CRA 1.6 is underlain by sedimentary rock. The beaches, dunes, marine terraces, fluviomarine terraces, flood plains, estuaries, and tidal flats are in CRA 4A.2. The coastal fogbelt zone is in CRAs 4A.1, 4A.2, and 4A.3. CRA 4A.1 is underlain by volcanic rock, and CRA 4A.3 is underlain by sedimentary rock.

There is a strong relationship between physiography and ecoregions. The Coastal Lowlands ecoregion encompasses the coastal plain, which includes the beaches, dunes, marine and river flood plains and terraces, estuaries, and tidal flats (fig. 13). This ecoregion consists of deep, fertile, silty and clayey soils, and it historically supported wetland forests of Sitka spruce and western hemlock. Riparian areas are being re-established in areas where wetlands were drained and converted

Figure 11.—Volcanics ecoregion in the Kilchis River watershed. Ascar, Klootchie, and Necanicum soils are at the lower elevations; Harslow, Kilchis, and Klistan soils are at the lower middle elevations; Caterl, Laderly, and Murtip soils are at the higher middle elevations, and Newanna, Sevencedars, and Woodspoint soils are at the highest elevations.

to dairy pastures. Currently, the land is used to produce forage for dairy cows and other livestock and for urban and rural development. Dairy products are manufactured locally. Some specialty crops such as artichokes and flowers for cutting are grown, but the choice of crops is limited by the cool, moist growing season.

Residential, commercial, and recreational development is expanding into the coastal corridor. It is surrounded by the Coastal Uplands ecoregion, which includes the headlands and low hills and mountains on the western edge of the county that currently support a natural vegetation of western hemlock and Douglas-fir. Historically, wetland prairies and wet forest vegetation, such as Sitka spruce, covered this area. Today the area is managed for Douglas-fir timber production.

The Volcanics ecoregion comprises the largest area of the county. It is on the foothills and mountains in the interior of the county. Most of this area supports Douglas-fir with western hemlock and western red cedar in the more moist areas. Land use is dominantly timber production, some Christmas tree farms, and rural residential development. This area is underlain by igneous (basalt) parent material.

The Mid-Coastal Sedimentary ecoregion is in the southeastern corner of the county, on the interior foothills and mountains. Most of this area supports Douglas-fir with western hemlock and western red cedar in the more moist areas. Land use is dominantly timber production, some Christmas tree farms, and rural residential development. This area is underlain by sedimentary rock, including sandstone, siltstone, and mudstone.

Figure 12.—Area of the coastal fogbelt zone.

The Willapa Hills ecoregion is of limited extent on the rolling hills in the northeastern corner of the county. Industrial forests have almost completely replaced the historic forests in this area. Large herds of Roosevelt elk winter in this ecoregion (fig. 14). The area is underlain by sedimentary rock such as sandstone, siltstone, and mudstone. If disturbed, the silty and clayey soils are easily eroded and the sediment can lower the quality of the streams.

All Level IV ecoregions in the Coast Range support highly productive conifer forests of Douglas-fir, western hemlock, and western red cedar interspersed with alder and maple. Forestland, recreation, and pastureland (on the stream terraces in the tributary river valleys) are the major land uses (Hulse and others, 2002).

Climate

Prepared by the Natural Resources Conservation Service, National Water and Climate Center, Portland, Oregon.

Tillamook County has a marine-influenced climate because of its proximity to the Pacific Ocean, which warms the air flowing over the county in winter and cools the air in summer. The temperatures along the coast are mild throughout the year, and the growing season is nearly year round. Winds are dominantly southwesterly in winter and northwesterly in summer. Occasional, brief periods of strong easterly winds may occur, and they typically are associated with low humidity and extremes in air temperature.

Winds from the west travel over the ocean for several days. When the airmass reaches land, it is saturated with moisture and is at nearly the same temperature

Figure 13.—Estuaries, tidal flats, and wetland areas in the Coastal Lowlands ecoregion.

as the ocean. This results in 100 days of fog or more along the coast each year. In the inland valleys, however, the number of foggy days may be about half that of the coastal areas. Fog occurs in any month throughout the year.

The mountains are within a few miles of the coastline. They rise to elevations of more than 3,000 feet. Airmasses flowing over the mountains cool by as much as 3 to 5 degrees F for each 1,000-foot increase in elevation. In winter, the land masses cool to a much lower temperature than that of the ocean and they cool the airmasses as they rise up the mountain slopes. As this cooling takes place, air that was nearly saturated at sea level becomes oversaturated. As a result, precipitation increases as elevation increases (Meyer and Amaranthus, 1979). In summer, land masses heat up more rapidly than does the ocean and thus less precipitation is produced in the airmasses as they move up the mountain slopes. For this reason, the inland valleys, which are near the coast to many miles east in the interior of the county, are drier and warmer than the coastal areas.

Tables 1 through 3 were created from climate data recorded at the Cloverdale, Oregon, climate station during the period 1971 to 2000. Thunderstorm days, relative humidity, percent sunshine, and wind information are estimated from data recorded at the First Order station at Astoria, Oregon.

In winter, the average temperature is 44.8 degrees F and the average daily minimum temperature is 37.8 degrees. The lowest temperature on record, which occurred on January 31, 1950, is 8 degrees. In summer, the average temperature is 59.1 degrees and the average daily maximum temperature is 69.0 degrees. The highest recorded temperature, which occurred on August 9, 1981, is 106 degrees.

Growing degree days are shown in table 1. They are equivalent to “heat units.“ During the month, growing degree days accumulate by the amount that the average temperature each day exceeds a base temperature (40 degrees F). The normal monthly accumulation is used to schedule single or successive plantings of a crop between the last freeze in spring and the first freeze in fall.

Figure 14.—Elk on mountain slopes in the Willapa Hills ecoregion.

The total annual precipitation is about 83.06 inches. Of this, 39.03 inches, or 47 percent, usually falls in April through September. The growing season for most crops falls within this period. The heaviest 1-day rainfall during the period of record was 5.22 inches on January 23, 1982. Thunderstorms occur on about 8 days each year, and most occur in November.

The average seasonal snowfall is about 1.1 inches. The greatest snow depth at any one time during the period of record was 11 inches. On the average, 0 days of the year have at least 1 inch of snow on the ground.

The average relative humidity in midafternoon is about 73 percent. Humidity is higher at night, and the average at dawn is about 89 percent. The sun shines 48 percent of the time possible in summer and 26 percent in winter. The prevailing wind is from the east-southeast. Average windspeed is highest, 9.1 miles per hour, in January.

How This Survey Was Made

This survey was made to provide information about the soils and miscellaneous areas in the survey area. The information includes a description of the soils and miscellaneous areas and their location and a discussion of their suitability, limitations, and management for specified uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They dug many holes to study the soil profile, which is the sequence of natural layers, or horizons, in a soil. The profile extends

from the surface down into the unconsolidated material in which the soil formed. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

The soils in this survey area were mapped and correlated according to the concepts and limits of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in the survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Major Land Resource Area Update Concept

In the early 1980's, the National Soil Survey Center of the Natural Resources Conservation Service (NRCS) began to consider ways to maintain and improve soil survey maps, soil data, and soil interpretations (USDA, 1993). The idea thought to be most appropriate was the creation of a single database of larger scope than just the contemporary individual county soil survey area. This would be accomplished by using a single standard to modernize the information for several existing soil survey areas within a geographic area, or major land resource area (MLRA) (USDA, 2006). The increasing demand for resource information and advances in computer technologies were considered. A coordinated, seamless soil database could be most effectively maintained and continuously developed on a larger scale, such as geographic areas (MLRAs). Maintenance and improvement of soil survey information for analysis, program application, and automated geographic databases have become the goal for areas that have similar land use, climate, water, soils, and plants.

The MLRA approach encourages the use of modern technologies, such as telecommunication for data transfer; computers for use in evaluating, reviewing, and editing information; and geographic information systems (GIS) to project information for areas of known coordinates. Improvements in communication, scale-accurate maps, data collection, data evaluation, quality assurance, publishing formats, and electronic availability of the information enhance the overall usefulness of the soil survey information in addition to improving accuracy and reliability.

Maintenance of soil survey information is a continuous process needed to improve and expand technical knowledge to meet the needs of present and future user. Maintenance needs include:

Classification.—Many of the older soil survey reports have soil series that were classified based on pre-Soil Taxonomy data (Soil Survey Staff, 1999). In addition, the pedon descriptions are inadequate to determine the correct classification of the soils. Consistent and current soil classification is needed for effective communication of soil concepts by the soil scientists.

Interpretations.—Some of the soil interpretations are outdated or inaccurate. The need exists for new information to address the many technical advances in agriculture, forestry, and urban uses. Filling gaps in existing data and recognizing agricultural and silvicultural concerns are also primary considerations in the maintenance of soil survey information. Collection of additional laboratory data, transect data on the composition of soil map units, and special soil survey investigations or studies to improve the quality of the survey may be needed to meet the needs of users. Soil properties relating to sustainability with regard to tillage operations and application of herbicides, pesticides, and waste material and its effect on water quality are important to the agricultural sector of the economy as it relates to current and future farm programs. Changes in land use also may make additional soil interpretations necessary.

Soil maps.—The detailed soil maps in older soil survey reports are outdated and in some cases inaccurate. The photo base commonly is of poor quality and not to the scale or control base needed for a geographic information system database. Consistent use of landscape terminology by soil scientists with that used by other disciplines in the natural resource field would improve data use and accuracy in addition to allowing for a more complete understanding of the information.

User needs.—It has become necessary to maintain and organize web-based soil survey information in order to meet the existing and future interpretive needs of users.

National Cooperative Soil Survey (NCSS) standards.—Many of the older soil surveys do not meet the present standards of the National Cooperative Soil Survey Program (for example, new interpretive needs, inaccurate mapping, matching inconsistencies, incomplete data, and changes in land use/needs of users). The U.S. Department of Agriculture Farm Bill programs, Food Security Act, and water quality initiatives have placed new emphasis on the need for more specific soil information and related resource data.

When the Tillamook County soil survey project began in October 1990, the MLRA update concept had not yet been established as the official approach. Consequently, the more traditional methodology of defining survey areas and the soils within the areas by political boundaries, such as county lines, was used. A few years later, the NRCS officially adopted the MLRA update concept. This resulted in the transition of the Tillamook County soil survey into this new approach. The soil survey area is in two MLRAs—the Sitka Spruce Belt (MLRA 4A), which encompasses the majority of the agricultural, residential, and urban land under private ownership, and the Northern Pacific Coast Range, Foothills, and Valleys (MLRA 1), which is dominantly forestland under Federal, State, county, and private ownership. All of Tillamook County was mapped according to the more traditional procedures used by the National Cooperative Soil Survey, which included the use of a reference typical soil pedon located in Tillamook County. Along boundaries with Clatsop, Washington, and Lincoln Counties, however, several soil components and map units from these adjacent survey areas were used for the Tillamook County survey to facilitate an exact join. Because of the limited extent of these soils in Tillamook County, the existing typical reference pedons from these older surveys was used, which more nearly follows the concept of the MLRA approach. Examples include the Braun and Scaponia soils from the Clatsop County soil survey, the Hembre and Melby soils from the Washington County soil survey, and the Reedsport soils from the Lincoln County soil survey. In addition, the typical reference pedons for the Apt, McDuff, and Mulkey soils from the recently updated Benton County soil survey were used for the Tillamook County survey. The extent of these soils was minimal, but use allows for a quality join and for consistent MLRA update mapping to occur in the adjacent Polk and Yamhill Counties in the future.

The main difference between these two approaches focuses on how the soils information is grouped together for population in the soil survey database and ultimately how it appears in narrative and tabular format. In the MLRA update concept, the typical pedon for a given soil series is selected to represent that soil type throughout the entire MLRA geographic area. This representative soil pedon may or may not be in Tillamook County; it may be in another county but still within MLRA 1 or 4A. This approach allows for a much wider range of chemical, physical, and temporal properties for that soil, as documented throughout the entire MLRA geographic area, to be populated in the soils database. This is also true for named soil inclusions within MLRA-based soil map units. It is possible that the entire range listed in the database for specific soil characteristics (such as texture), temporal properties (such as elevation or climate), or named soil inclusions may not occur in total within the Tillamook County part of either MLRA 1 or 4A.

In contrast, the traditional approach used dominantly for this survey recognizes a typical pedon located within the survey area for each specific soil component mapped. All of the ranges given for chemical, physical, and temporal properties of the soil map units are based on those identified only within Tillamook County. This approach generally allows for a narrower range in values for a given soil characteristic than does the MLRA approach. It is tailored specifically for the survey area in which the fieldwork and supporting activities were done.

It is possible that discrepancies may arise when comparing Tillamook County soil data populated using the MLRA approach with data from older Tillamook County soil surveys or with data for the same soils mapped in adjacent county soil surveys that have not yet been updated. This variability can be attributed to a transition into the MLRA update concept approach. As these adjacent soil survey areas are updated using the MLRA approach, the product developed will include consistent, coordinated tabular and narrative databases along with a seamless, exact join of soil map units between adjacent soil survey areas in the spatial database. These seamless datasets will be made available on the internet to all users of soils information. Other media formats, such as the Tillamook County soil survey publication on CD, will be available upon request.

All data for the Tillamook County, Oregon, soil survey is on the internet at the following sites: (1) the NRCS Web Soil Survey website (http://websoilsurvey.nrcs.usda.gov/app/); (2) the NRCS Soil Data Mart website (http://soildatamart.nrcs.usda.gov/Survey.aspx?State=OR); or (3) the NRCS Oregon homepage at (http://www.or.nrcs.usda.gov/). Data formats include tabular (tables), text (narrative), and spatial (soil maps).

Survey Procedures

The general procedures followed in making this soil survey are described in the National Soil Survey Handbook (http://soils.usda.gov/technical/handbook/). Soil surveys referenced in the development of this survey include two earlier soil surveys of the county (USDA, 1957; USDA, 1964). Other references used are as follows:

- Mapping of geomorphic surfaces (Balster and Parsons, 1968 and 1969; Gelderman, 1970; Gelderman and Parsons, 1972; Glassman and Kling, 1980; Glassman and others, 1980; Goldin and Parsons, 1983; Nettleton and others, 1982; Parsons and others, 1968, 1970; Parsons and Herriman, 1976; Reckendorf, 1993; Reckendorf and Parsons 1966)
- Research studies on soil-geomorphic relationships in mountainous terrain (Balster and Parsons, 1965a; Balster and Parsons, 1965b; Parsons, 1978; Parsons and Balster, 1966; Parsons and Herriman, 1975)
- Geology of Oregon” (Orr and Baldwin, 2000)
- Soil Resource Inventory, Siuslaw National Forest (Badura and others, 1974)
- Reconnaissance geologic maps with accompanying texts issued by the State of Oregon Department of Geology and Mineral Industries (Beaulieu, 1973; Beeson and others, 1985; Choiniere and Swanson, 1979; Grant and Minor, 1991; Jenny and others, 1969; Niem and Niem, 1985; Peterson and Darienzo, 1988; Schlicker and others, 1972, 1973, and 1974)
- Reconnaissance geologic maps with accompanying texts issued by the U.S. Geological Survey (Atwater, 1987; Baldwin, 1955; Snavely and others, 1968, 1973, and 1996; Walker and MacLeod, 1989 and 1991; Wells and others, 1989, 1992, and 1994)
- Report for the Tillamook Bay National Estuary Project (Bostrom and Komar, 1997)
- Landforms and land types of the Oregon Coast Range (Ellis-Sugai and others, 1997; Reckenforf, 1975)
- Publications and maps regarding vegetation, plant associations, land resource areas or provinces, and precipitation (Anderson and others, 1998; Christy and others, 1998; Daly and others, 1994; Franklin and Dyrness, 1973; Juday, 1976; Loy and others, 2001; McCain, 2004 and 2009; McCain and Diaz, 2002; McGrath, 2004; Pater and others, 1998; Taylor and others, 1997; Thorson and others, 2003)

- Flood insurance rate maps of Tillamook County, Oregon, published by the Federal Emergency Management Agency (U.S. Department of Homeland Security, 1978)
- Memorandum of understanding between the Natural Resources Conservation Service; Forest Service; Bureau of Land Management; Oregon State University, Agricultural Experiment Station; and Tillamook County Soil and Water Conservation District

The survey area was mapped on U.S. Geological Survey 7.5-minute topographic quadrangles at a scale of 1:24,000. High-altitude black and white and true color aerial photographs enlarged to a scale of 1:24,000 were used to locate position and orient direction while traversing areas in the Coast Range.

Cultural features and drainageways were transferred from the 7.5-minute topographic maps. Water features were digitally adjusted to fit the publication imagery where necessary. Hillslopes and relief gradients generally were determined from field examination and delineation of contour intervals on topographic maps, stereoscopic study of aerial photographs, or geographic information systems applications to available digital data layers.

The specifications for intensity of soil mapping varied for each geographic area within the survey based on the needs of the users and were detailed in the memorandum of understanding. Different soil survey techniques were used within each of these areas. The soils in the survey area were mapped by soil scientists using field observations and their knowledge of soil-vegetation-landscape relationships to document predictable and observable soil patterns that occur on landforms. The general soil-vegetation-landscape relationships are described in detail in the section “Formation of the Soils.”

Transects, traverses, and observations were used to confirm soil-vegetation-landscape associations that were established for various parts of the survey area. Transects describe the soils and conditions at points along a fixed length at regular intervals and are used to identify the composition of a map delineation and to aid in map unit design. Traverses describe the soils and conditions in areas selected for a variety of reasons, such as to reference vegetation, occurrence of a given soil component on a landform, and occurrence of tonal patterns on the imagery. They are helpful for onsite identification of a given soil type and beneficial as verification of the assignment of the map unit. Observations are visual notations of items of interest to soil scientists during field activities and include such details as geologic features, vegetation, surface conditions, or disturbed areas. They do not involve examination of the soil but focus on observed surface characteristics.

Data from remote sensing or ancillary (supplemental) data is another inventory technique used by soil scientists. Examples include aerial photointerpretation, terrain analysis, use of geology and geologic hazards, and vegetative maps. Two levels of documentation are involved—primary documentation, which is the principal method for verifying polygon delineations and soil properties, and secondary documentation, which includes additional methods to support the primary procedures. An example is tonal patterns on aerial photographs that are used to determine the presence of wet, droughty, or shallow soils; patterns of cobbles or stones; and eroded or nonvegetated areas. Aspect contrasts are evident. Vegetative type and density commonly reflects the soil depth and available water capacity.

Transects were made randomly across the map units to determine the composition of the dominant and included soils. Transect lines were oriented to cross drainage patterns on the landscape, as these commonly provide the most information about the pattern of soils. Tonal patterns on aerial photographs predict some preliminary soil delineations, although the extent and composition of each map unit was determined

in the field. Traverses were used to map soils in level areas that do not have easily predictable patterns, such as flood plains and stream terraces. The soil scientists generally crossed the areas on foot, following a course that had been charted on aerial photographs. The soil characteristics were examined and documented at regular intervals, commonly crossing several delineations on a single geomorphic surface or landform.

Map unit composition is divided into two categories—major soils, whose patterns are repetitive and easily observable across the landscape in the survey area (the named soils in a map unit name), and minor soils, whose patterns on the landscape are not easily predictable or observable. Minor soils include similar and contrasting soils. Similar soils have the same potential plant communities, require similar management, and can be identified only by soil sampling and landform traverses.

Contrasting soils have different potential plant communities, require different management, and can be identified only by landform traverses or soil sampling. Included within this category are strongly contrasting soils that have different potential plant communities, require different management techniques, and are separated out by remote sensing techniques (use of topographic maps to determine slope and aspect and photointerpretation of tonal patterns). Under the heading "Detailed Soil Map Units," contrasting soils or miscellaneous areas are described if they are of significant extent in a map unit.

Where predictable soil patterns were observed, such as on foothills and in mountainous areas, landscape traverses were used to correlate soils to a particular landscape position. Traverses were planned using topographic maps and photointerpretation of tonal patterns, slope, and aspect. The traverses crossed typical landscapes and different slope phases in the area. Field sampling was done primarily to determine the composition of the map units, to supplement documentation on the range of characteristics for each named soil in the map unit, and to verify conclusions based on an examination of the tonal patterns on the aerial photographs used to predict the occurrences of different kinds of soil. The traverses were made by truck and on foot. The soils were examined when changes in characteristics were evident. In areas where the soils varied considerably, many traverses were made at short intervals.

This survey was mapped at two levels of intensity. A higher level of detail was used in mapping the soils of the flood plains, stream terraces, marine terraces, fluviomarine terraces, and low hills, which are increasingly being converted to cropland and pastureland or urban development. The kinds of map units delineated are consociations and complexes of phases of soil series and miscellaneous areas. Maps of the flood plains published by the Federal Emergency Management Agency were used as an aid in determining the boundaries of the flood plains. The minimum size of the map unit delineations was 10 acres. The maximum size of the delineations of dissimilar, or contrasting, soils was about 3 acres (terraces and foothills). Photointerpretation and field investigations were intense enough to detect 5-acre areas where the changes in the land capability classification would require significantly different management for specialty crops, pasture, and urban development (USDA, 1961). In the coastal tributary valleys, four or five separate geomorphic surfaces formed from late Pleistocene and Holocene climatic and geologic events, producing a stair-step effect on the stream terrace. Different soils have developed on each level. Transects were made on each level of the terraces to determine the pattern of the soils and the composition of the map unit. Traverses were made across adjoining terraces to determine associated soils. About 10 percent of the survey area was mapped at this higher level.

An intermediate level of detail was used in mapping the soils of the remaining foothills and mountainous areas. These soils formed in various kinds of parent material, and they are in gently sloping to very steep areas. They are used for timber

production, livestock grazing, watershed, recreation, and fish and wildlife habitat. The kinds of map units delineated were complexes of phases of soil series and miscellaneous areas. The minimum size of the delineations generally was about 40 acres; however, delineations as small as 15 acres were identified in areas considered to be of high resource value or in areas of strongly contrasting soils.

Photointerpretation and field investigations were intense enough to detect areas that are a maximum size of 15 acres and would require significantly different management for use as forestland, wildlife, recreation, and watershed. About 90 percent of the survey area was mapped at this intermediate level of detail.

The mountainous areas cover one precipitation zone, five temperature regimes, and a variety of landscape positions. Photointerpretation of tonal patterns was used to delineate many of the map units in the areas of forestland. Traverses were made to establish suitable sites for collection of forestland productivity data, which correlated with soil patterns and map unit composition. Tree density and stand appearance were used to determine the potential of a stand as a possible data collection site.

The descriptions, names, and delineations of the soils in this survey area may not exactly agree with those of the soils in adjacent survey areas. Differences are the result of a better knowledge of the soils, modifications in series concepts, completion dates of the adjacent surveys (out of date and not yet updated), or variations in the intensity of mapping or in the extent of the soils in the survey area.

The soil mapping of the coastal marine terraces, beaches, dunes, estuaries, tidal flats, Tillamook Valley, coastal and interior stream valleys, foothills, and mountainous areas of Tillamook County is an update of the mapping of the two previous soil surveys completed for the county. Since these earlier surveys, more has been learned about the soils through laboratory analysis and examination of data on climate, geology, crop yields, forestland site productivity, and numerous other studies of the natural resources in the county. Previous concepts have been revised because of this improved understanding.

Samples for chemical and physical analysis were taken from pedons of the major soils in the survey area. The analyses were made by the National Soil Survey Laboratory in Lincoln, Nebraska, and by the Central Analytical Laboratory, Department of Crop and Soil Science, at Oregon State University. The results were used to aid in classifying the soils, in determining their inherent fertility and potential for erodibility, and in making various interpretations for engineering, agriculture, and other land uses.

Soil-plant relationships were evaluated in the development of the detailed map unit descriptions included in this survey. Foresters, soil scientists, and soil conservationists assisted in measuring the potential for timber production at representative forested sites. Foresters and ecologists correlated existing vegetation into potential plant communities, and soil scientists assisted by grouping these plant communities into broader associations based on specific soil characteristics, such as presence of a claypan, drainage, and depth to bedrock. Soil conservationists, agents from the Oregon State University Extension Service, and Earth Team volunteers assisted in collecting specialty crop and forage yield data. The data were correlated to the kind of soil and the site characteristics of the map units. Results were used to predict the performance of the various map units in the survey area.

More detailed information about soils, agriculture, and forestry is available in the sections “General Soil Map Units,” “Detailed Soil Map Units,” “Crops and Pasture,” and “Forestland Productivity and Management.”

General Soil Map Units

The general soil map in this publication shows broad areas that have a distinctive pattern of soils, relief, and drainage. Each map unit on the general soil map is a unique natural landscape. Typically, it consists of one or more major soils or miscellaneous areas and some minor soils or miscellaneous areas. It is named for the major soils or miscellaneous areas. The components of one map unit can occur in another but in a different pattern.

The general soil map can be used to compare the suitability of large areas for general land uses. Areas of suitable soils can be identified on the map. Likewise, areas where the soils are not suitable can be identified.

Because of its small scale, the map is not suitable for planning the management of a farm or field or for selecting a site for a road or building or other structure. The soils in any one map unit differ from place to place in slope, depth, drainage, and other characteristics that affect management.

Soils on Coastal Lowlands and Dunes

Number of map units: 2 (fig. 15)
Percentage of survey area: 3 percent

1. Coquille-Beaches-Fluvaquents

Nearly level, silty and loamy, very poorly drained, very deep soils that formed in estuarine deposits and nearly level, sandy, excessively drained to very poorly drained, very deep miscellaneous areas

Major landforms: Tidal marshes, beaches, estuaries, and coastal freshwater swamps
Percentage of survey area: 2 percent
Slope: 0 to 3 percent
Elevation: 0 to 20 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 300 days
Minor components: Histosols and Brenner soils
Present uses: Pastureland, recreation, and wildlife habitat

2. Waldport-Netarts-Heceta

Nearly level to very steep, sandy, excessively drained to poorly drained, very deep soils that formed in eolian sand

Major landforms: Sand dunes, foredunes, and interdune depressions (fig. 16)
Percentage of survey area: 1 percent

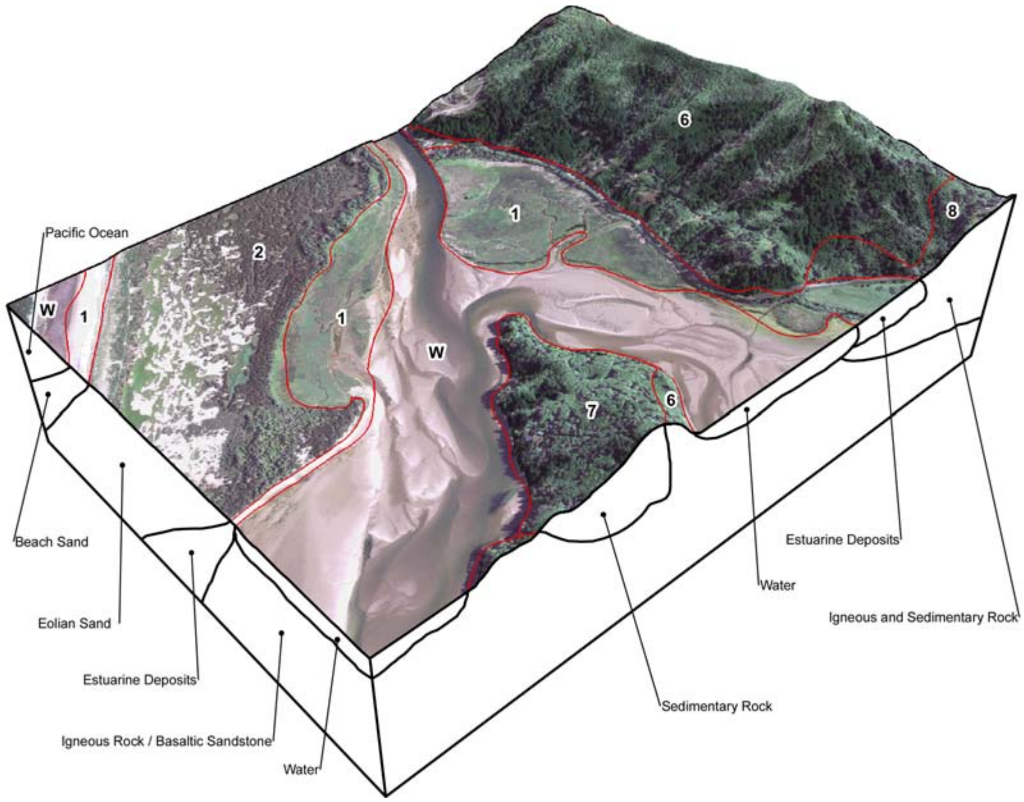

Figure 15.—Diagram of general soil map units in the Pacific City area.

Slope: 0 to 90 percent
Elevation: 0 to 400 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 180 to 300 days
Minor component: Dune land
Present uses: Pastureland, homesite development, recreation, and wildlife habitat

Soils on Coastal Valley Flood Plains and Terraces

Number of map units: 2 (fig. 17)
Percentage of survey area: 5 percent

3. Nehalem-Brenner-Nestucca

Nearly level, silty, well drained to poorly drained, very deep soils that formed in recent alluvium

Major landforms: Flood plains
Percentage of survey area: 3 percent
Slope: 0 to 3 percent
Elevation: 10 to 200 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F

Figure 16.—Waldport and Heceta soils in an area of general soil map unit 2, near Sand Lake.

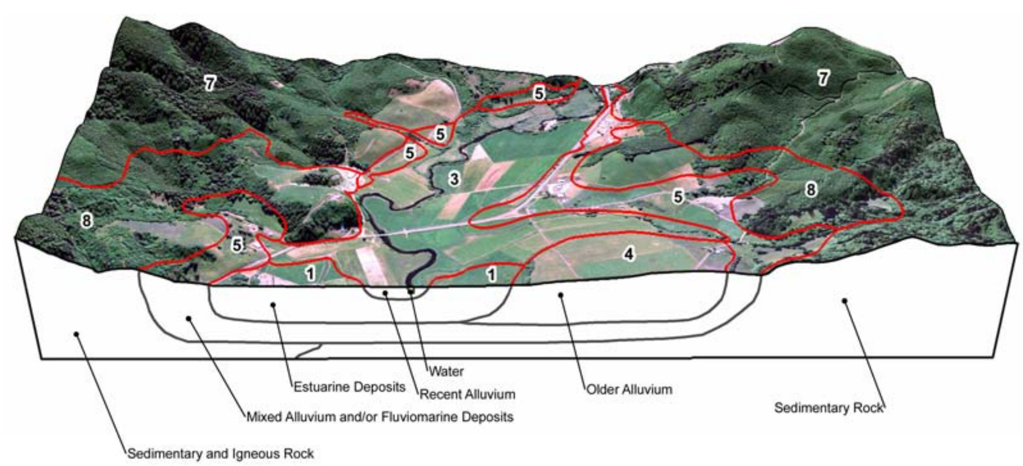

Figure 17.—Diagram of general soil map units in the Meda area.

Frost-free period: 160 to 300 days
Minor components: Logsden and Yachats soils, Aquepts, Gauldy soils, Dystrudepts, Oxyaquic Fulvudands, Fluventic Humic Dystrudepts, and Typic Fulvudands
Present uses: Pastureland, cropland, homesite development, and wildlife habitat

4. Typic Fulvudands-Quillamook-Siletz

Nearly level to gently sloping, loamy, well drained to excessively drained, very deep soils that formed in mixed alluvium

Major landforms: Terraces
Percentage of survey area: 2 percent
Slope: 0 to 15 percent
Elevation: 20 to 600 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 120 to 260 days
Minor components: Alic Hapludands, Urban land, and Wolfer, Ginger, and Tillamook soils
Present uses: Pastureland, cropland, homesite development, and wildlife habitat

Soils in Coastal Valleys and on Marine Terraces

Number of map units: 1
Percentage of survey area: 2 percent

5. Chitwood-Knappa-Hebo

Nearly level to gently sloping, clayey and silty, well drained to poorly drained, very deep soils that formed in older mixed alluvium and/or fluviomarine deposits

Major landforms: Coastal valley stream terraces and fluviomarine terraces
Slope: 0 to 15 percent
Elevation: 20 to 550 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 300 days
Minor components: Condorbridge and Walluski soils
Present uses: Pastureland, cropland, homesite development, forestland, and wildlife habitat

Soils on Coastal Headlands, Hills, and Mountains

Number of map units: 4
Percentage of survey area: 43 percent

6. Salander-Necanicum-Neskowin

Strongly sloping to very steep, loamy, well drained, moderately deep to very deep soils that formed in colluvium and residuum derived from igneous rock and/or basaltic tuff

Major landforms: Coastal headlands, hills, and mountains
Percentage of survey area: 2 percent
Slope: 5 to 100 percent
Elevation: 50 to 1,800 feet
Mean annual precipitation: 80 to 110 inches

Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days
Minor components: Neotsu soils and Rock outcrop
Present uses: Forestland and recreation

7. Tolovana-Templeton-Ecola

Strongly sloping to very steep, silty and loamy, well drained, moderately deep to very deep soils that formed in colluvium and residuum derived from sedimentary rock

Major landforms: Coastal hills and mountains
Percentage of survey area: 3 percent
Slope: 3 to 90 percent
Elevation: 50 to 1,800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days
Minor components: Reedsport, Ascar, and Necanicum soils
Present uses: Forestland and recreation

8. Templeton-Munsoncreek-Klootchie

Strongly sloping to very steep, silty, clayey, and loamy, well drained, deep and very deep soils that formed in colluvium and residuum derived dominantly from sedimentary rock and some igneous rock

Major landforms: Coastal hills and mountains
Percentage of survey area: 12 percent
Slope: 3 to 90 percent
Elevation: 50 to 1,800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days
Minor components: Ecola, Necanicum, Skipanon, Ascar, Flowerpot, Svensen, Reedsport, Neotsu, Winema, Tolovana, and Fendall soils
Present uses: Forestland and recreation

9. Klootchie-Necanicum-Ascar

Strongly sloping to very steep, loamy, well drained, moderately deep to very deep soils that formed in colluvium and residuum derived from igneous rock or tuff

Major landforms: Coastal mountains
Percentage of survey area: 26 percent
Slope: 3 to 90 percent
Elevation: 50 to 1,800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days
Minor components: Lebam soils and Rock outcrop
Present uses: Forestland and recreation

Soils in Narrow Mountain Valleys

Number of map units: 1
Percentage of survey area: 1 percent

10. Aquepts-Dystrudepts-Oxyaquic Hapludands

Nearly level to steep, clayey, loamy, and sandy, poorly drained to well drained, moderately deep to very deep soils that formed in mixed alluvium

Major landforms: Narrow coastal mountain valley flood plains and narrow interior mountain valley flood plains and stream terraces
Slope: 0 to 60 percent
Elevation: 0 to 1,900 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 120 to 260 days
Minor components: Alic Hapludands
Present uses: Forestland and recreation

Soils on Mountains

Number of map units: 3
Percentage of survey area: 31 percent

11. Klistan-Hemcross-Harslow

Gently sloping to very steep, loamy, well drained, very deep to moderately deep soils that formed in colluvium and residuum derived from igneous rock

Major landforms: Mountains (fig. 18)
Percentage of survey area: 29 percent
Slope: 5 to 90 percent
Elevation: 200 to 2,200 feet
Mean annual precipitation: 80 to 120 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 210 days
Minor components: Hembre, Ginsberg, and Kilchis soils and Rock outcrop
Present uses: Forestland and recreation

12. Preacher-Bohannon-Astoria

Gently sloping to steep, clayey and loamy, well drained, deep and moderately deep soils that formed in colluvium and residuum derived from sedimentary rock

Major landforms: Mountains
Percentage of survey area: 1 percent
Slope: 5 to 60 percent
Elevation: 200 to 2,000 feet
Mean annual precipitation: 80 to 120 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 210 days
Minor components: Apt and McDuff soils
Present uses: Forestland and recreation

Figure 18.—Hemcross and Klistan soils in an area of general soil map unit 11.

13. Tolke-Scaponia-Melby

Gently sloping to very steep, clayey and loamy, well drained, very deep and deep soils that formed in colluvium and residuum derived from sedimentary rock and tuffaceous sedimentary rock

Major landforms: Mountains
Percentage of survey area: 1 percent
Slope: 5 to 90 percent
Elevation: 500 to 2,200 feet
Mean annual precipitation: 80 to 120 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 210 days
Minor components: Braun and Rinearson soils
Present uses: Forestland and recreation

Soils on High Elevation Mountains

Number of map units: 3
Percentage of survey area: 16 percent

14. Fawceter-Mosscreek-Killam

Gently sloping to very steep, loamy, well drained, very deep to moderately deep soils that formed in colluvium and residuum derived from igneous rock and tuff

Major landforms: Mountains (fig. 19)
Percentage of survey area: 2 percent

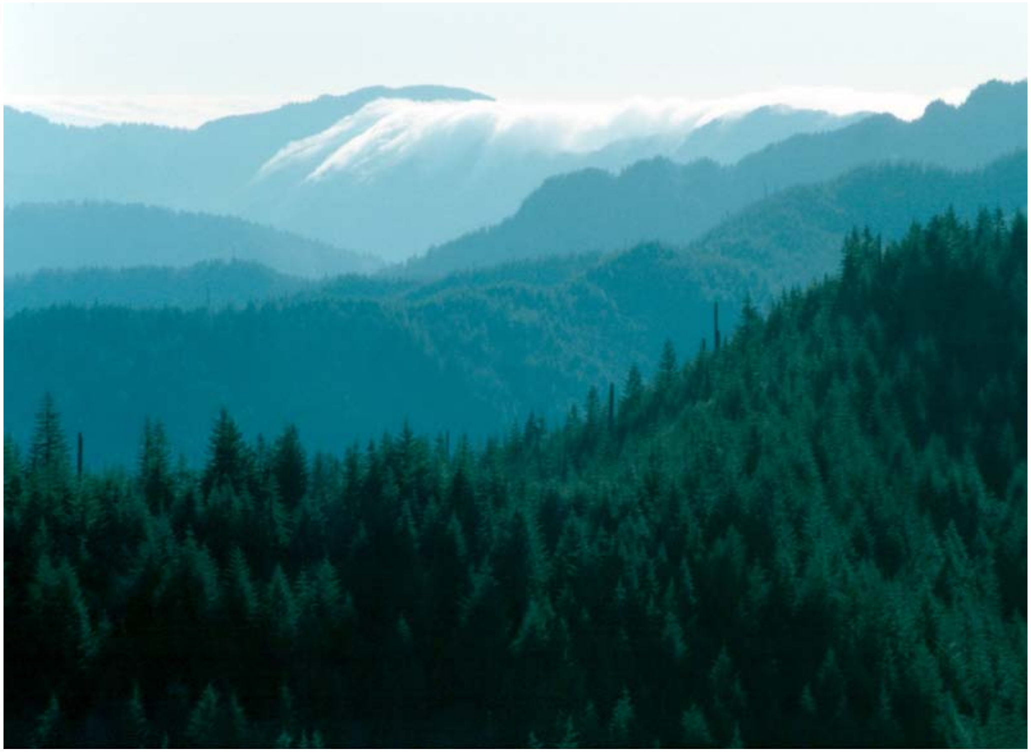

Figure 19.—Isomesic soils such as Klootchie and Necanicum soils in foreground and isofrigid soils such as Fawceter, Killam, and Mosscreek soils in an area of general soil map unit 14 in distance.

Slope: 5 to 90 percent
Elevation: 1,600 to 3,000 feet
Mean annual precipitation: 110 to 120 inches
Mean annual air temperature: 42 to 46 degrees F
Frost-free period: 90 to 120 days
Minor component: Rock outcrop
Present uses: Forestland and recreation

15. Caterl-Murtip-Laderly

Gently sloping to very steep, loamy, well drained, deep and very deep soils that formed dominantly in colluvium and residuum derived from igneous rock and underlain by glacial till in some areas

Major landforms: Mountains (fig. 20)
Percentage of survey area: 13 percent
Slope: 3 to 90 percent
Elevation: 1,800 to 3,000 feet
Mean annual precipitation: 100 to 130 inches
Mean annual air temperature: 42 to 46 degrees F
Frost-free period: 60 to 100 days
Minor components: Rock outcrop and McMille and Mutt soils
Present uses: Forestland and recreation

16. Sevencedars-Newanna-Woodspoint

Gently sloping to very steep, loamy, well drained, very deep to moderately deep soils that formed dominantly in colluvium and residuum derived from igneous rock and underlain by glacial till or tuff in some areas

Major landforms: Mountains (fig. 20)
Percentage of survey area: 1 percent
Slope: 5 to 90 percent
Elevation: 2,800 to 3,700 feet
Mean annual precipitation: 130 to 150 inches
Mean annual air temperature: 39 to 42 degrees F
Frost-free period: 40 to 80 days
Minor components: Rock outcrop and Mulkey soils
Present uses: Forestland and recreation

Figure 20.—Frigid soils such as Caterl, Laderly, and Murtip soils in an area of general soil map unit 15 in middle distance and cryic soils such as Newanna, Sevencedars, and Woodspoint soils in an area of general soil map unit 16 in distance at the highest elevations.

Detailed Soil Map Units

The map units delineated on the detailed soil maps in this survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this section, along with the maps, can be used to determine the suitability and potential of a unit for specific uses. They also can be used to plan the management needed for those uses.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Minor soil components that have properties similar to those of the dominant soil or soils in the map unit do not affect use and management. They are called noncontrasting, or similar, components. They typically are not mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. The contrasting components are mentioned in the map unit descriptions. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit.

Soils that have profiles that are almost alike make up a *soil series*. All the soils of a series have major horizons that are similar in composition, thickness, and arrangement. The soils of a given series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management.

For example, Netarts fine sandy loam, 5 to 30 percent slopes, is a phase of the Netarts series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes and associations.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Murtip-Caterl-Laderly complex, 30 to 60 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Coquille-Brenner-Nehalem association, 0 to 3 percent slopes, protected, is an example.

This survey includes *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Each detailed soil map unit is assigned to a major land resource area (MLRA) (USDA Agriculture Handbook 296). The MLRA assigned to each detailed soil map unit is given in this section. Some map units, such as Rock outcrop, Water, and other miscellaneous areas, may not be assigned to a single MLRA because the unit can occur in any MLRA.

Table 4 gives the acreage and proportionate extent of each map unit. Other tables give properties of the soils and the limitations, capabilities, and potentials for many uses. The Glossary defines many of the terms used in describing the soils or miscellaneous areas.

1A—Brenner silt loam, 0 to 1 percent slopes

Map Unit Setting

General landscape: Coastal river valleys
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 10 to 200 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 300 days

Map Unit Composition

Brenner and similar soils: 85 percent
Dissimilar minor components: 15 percent

Characteristics of Brenner

Setting
Landform: Flood plains (fig. 21)
Geomorphic position (three-dimensional): Treads
Downslope shape: Linear
Across-slope shape: Linear

Properties and qualities
Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 0 to 1 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Poorly drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately low
Flooding frequency: Frequent (see Water Features table)

Figure 21.—Dairy cattle grazing in an area of Brenner silt loam, 0 to 1 percent slopes.

Ponding frequency: Frequent (see Water Features table)
Seasonal high water table (minimum depth): At the soil surface to a depth of 7 inches (see Water Features table)
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 11.6 inches)

Interpretive groups
Land capability subclass (nonirrigated): 4w
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 7 inches; silt loam
A—7 to 12 inches; silty clay loam
Bw1—12 to 18 inches; silty clay loam
Bw2—18 to 26 inches; silty clay loam
BC—26 to 40 inches; silty clay loam
Cg1—40 to 55 inches; silty clay
Cg2—55 to 60 inches; silty clay

Dissimilar Minor Components

Nestucca soils
Percentage of map unit: 8 percent
Landform: Flood plains

Nehalem soils, occasionally flooded
Percentage of map unit: 7 percent
Landform: Flood plains

2A—Fluvaquents-Histosols complex, 0 to 1 percent slopes

Map Unit Setting

General landscape: Pacific coastal lowlands
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 0 to 10 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 180 to 300 days

Map Unit Composition

Fluvaquents and similar soils: 60 percent
Histosols and similar soils: 35 percent
Dissimilar minor components: 5 percent

Characteristics of Fluvaquents

Setting
Landform: Coastal freshwater swamps, tidal marshes (fig. 22)
Geomorphic position (three-dimensional): Rises
Downslope shape: Linear
Across-slope shape: Linear

Properties and qualities
Parent material: Estuarine deposits
Slope range: 0 to 1 percent

Figure 22.—Area of Fluvaquents-Histosols complex, 0 to 1 percent slopes, in a high salt marsh.

Depth to restrictive feature: 30 to 60 inches to strongly contrasting textural stratification
Drainage class: Very poorly drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: Very frequent (see Water Features table)
Ponding frequency: Frequent (see Water Features table)
Seasonal high water table (minimum depth): At the soil surface to a depth of 4 inches (see Water Features table)
Salinity (maximum): Slightly saline (about 4 millimhos per centimeter)
Available water capacity (entire profile): High (about 9.1 inches)

Interpretive groups
Land capability subclass (nonirrigated): 5w
Plant association group: Sitka spruce/wet non-forest (991)

Typical profile
A1—0 to 4 inches; mucky silt loam
A2—4 to 7 inches; mucky silt loam
Cg1—7 to 22 inches; silt loam
Cg2—22 to 25 inches; sandy loam
Cg3—25 to 45 inches; loam
Cg4—45 to 60 inches; very gravelly sandy loam

Characteristics of Histosols

Setting
Landform: Coastal freshwater swamps, tidal marshes
Geomorphic position (three-dimensional): Rises
Downslope shape: Linear
Across-slope shape: Linear

Properties and qualities
Parent material: Organic material over alluvium or estuarine deposits; stratified organic material and alluvium; organic material throughout
Slope range: 0 to 1 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Very poorly drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: Very frequent (see Water Features table)
Ponding frequency: Frequent (see Water Features table)
Seasonal high water table (minimum depth): At the soil surface to a depth of 7 inches (see Water Features table)
Salinity (maximum): Slightly saline (about 4 millimhos per centimeter)
Available water capacity (entire profile): Very high (about 17 inches)

Interpretive groups
Land capability subclass (nonirrigated): 5w
Plant association group: Sitka spruce/wet non-forest (991)

Typical profile
Oe—0 to 7 inches; mucky peat
Oa1—7 to 13 inches; muck
Oa2—13 to 20 inches; muck
2C1—20 to 32 inches; mucky silt loam
2C2—32 to 60 inches; mucky silty clay loam

Dissimilar Minor Components

Tidal flats
Percentage of map unit: 2 percent
Landform: Tidal flats

Water
Percentage of map unit: 2 percent
Landform: Estuaries

Humaquepts, isomesic
Percentage of map unit: 1 percent
Landform: Tidal flats

3A—Coquille silt loam, 0 to 1 percent slopes

Map Unit Setting

General landscape: Pacific coastal lowlands
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 10 to 20 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 180 to 300 days

Map Unit Composition

Coquille and similar soils: 85 percent
Dissimilar minor components: 15 percent

Characteristics of Coquille

Setting
Landform: Estuaries, tidal marshes (fig. 23)
Geomorphic position (three-dimensional): Talfs
Downslope shape: Linear
Across-slope shape: Linear

Properties and qualities
Parent material: Estuarine deposits
Slope range: 0 to 1 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Very poorly drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately low
Flooding frequency: Very frequent (see Water Features table)
Ponding frequency: Frequent (see Water Features table)
Seasonal high water table (minimum depth): At the soil surface to a depth of 6 inches (see Water Features table)
Salinity (maximum): Very slightly saline (about 2 millimhos per centimeter)
Available water capacity (entire profile): High (about 11.7 inches)

Interpretive groups
Land capability subclass (nonirrigated): 5w
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
A—0 to 6 inches; silt loam
C1—6 to 14 inches; silt loam
C2—14 to 34 inches; silty clay loam

Figure 23.—Coquille silt loam, 0 to 1 percent slopes, in an area of wetland in Tillamook River Valley.

2Cg1—34 to 49 inches; silty clay loam
2Cg2—49 to 60 inches; silty clay loam

Dissimilar Minor Components

Brenner soils
Percentage of map unit: 5 percent
Landform: Flood plains

Histosols
Percentage of map unit: 5 percent
Landform: Tidal marshes

Nestucca soils
Percentage of map unit: 5 percent
Landform: Flood plains

4D—Ginsberg medial loam, 5 to 30 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys

Elevation: 200 to 2,200 feet
Mean annual precipitation: 80 to 120 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 210 days

Map Unit Composition

Ginsberg and similar soils: 85 percent
Dissimilar minor components: 15 percent

Characteristics of Ginsberg

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Summits, footslopes, toeslopes
Geomorphic position (three-dimensional): Mountaintops, mountain bases
Downslope shape: Convex, concave, linear
Across-slope shape: Convex, linear, concave
Aspect (range): All aspects

Properties and qualities
Parent material: Colluvium and residuum derived from tuffaceous sedimentary rock
Slope range: 5 to 30 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 12.6 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/oxalis-swordfern-moist (1907)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 6 inches; medial loam
A2—6 to 19 inches; medial loam
Bw1—19 to 36 inches; clay loam
Bw2—36 to 50 inches; clay loam
Bw3—50 to 63 inches; clay loam

Dissimilar Minor Components

Formader soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Hemcross soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Klistan soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

4E—Ginsberg-Klistan complex, 30 to 60 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 200 to 2,200 feet
Mean annual precipitation: 80 to 120 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 210 days

Map Unit Composition

Ginsberg and similar soils: 60 percent
Klistan and similar soils: 20 percent
Dissimilar minor components: 20 percent

Characteristics of Ginsberg

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Footslopes, backslopes
Geomorphic position (three-dimensional): Center third of mountain flanks, lower third of mountain flanks
Downslope shape: Concave, linear
Across-slope shape: Linear, concave
Aspect (range): All aspects

Properties and qualities
Parent material: Colluvium and residuum derived from tuffaceous sedimentary rock
Slope range: 30 to 60 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 12.6 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/oxalis-swordfern-moist (1907)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 6 inches; medial loam
A2—6 to 19 inches; medial loam
Bw1—19 to 36 inches; clay loam
Bw2—36 to 50 inches; clay loam
Bw3—50 to 63 inches; clay loam

Characteristics of Klistan

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, footslopes
Geomorphic position (three-dimensional): Upper third of mountain flanks, lower third of mountain flanks
Downslope shape: Linear, convex
Across-slope shape: Convex
Aspect (range): All aspects

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 30 to 60 percent
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 5 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/oxalis-swordfern-moist (1907)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 7 inches; very gravelly medial loam
A2—7 to 14 inches; very gravelly medial loam
Bw1—14 to 26 inches; very gravelly medial loam
Bw2—26 to 36 inches; extremely gravelly medial loam
Bw3—36 to 44 inches; extremely gravelly medial loam
R—44 to 48 inches; unweathered bedrock

Dissimilar Minor Components

Formader soils
Percentage of map unit: 10 percent
Landform: Mountain slopes

Hemcross soils
Percentage of map unit: 10 percent
Landform: Mountain slopes

5E—Ferrelo loam, 30 to 60 percent slopes

Map Unit Setting

General landscape: Pacific coastal plains
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 20 to 300 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 180 to 300 days

Map Unit Composition

Ferrelo and similar soils: 90 percent
Dissimilar minor component: 10 percent

Characteristics of Ferrelo

Setting
Landform: Marine terraces
Geomorphic position (two-dimensional): Backslopes
Geomorphic position (three-dimensional): Side slopes
Downslope shape: Linear, concave
Across-slope shape: Linear
Aspect (representative): Northwest
Aspect (range): Southwest to north (clockwise)

Properties and qualities
Parent material: Eolian and/or marine deposits
Slope range: 30 to 60 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 10.5 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A—1 to 19 inches; loam
Bw—19 to 37 inches; loam
2C1—37 to 55 inches; loamy fine sand
2C2—55 to 89 inches; fine sand

Dissimilar Minor Component

Netarts soils
Percentage of map unit: 10 percent
Landform: Stabilized dunes on marine terraces

6D—Horseprairie-Ferrelo complex, 3 to 20 percent slopes

Map Unit Setting

General landscape: Pacific coastal plains
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 100 to 300 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 180 to 300 days

Map Unit Composition

Horseprairie and similar soils: 65 percent
Ferrelo and similar soils: 25 percent
Dissimilar minor components: 10 percent

Characteristics of Horseprairie

Setting
Landform: Marine terraces
Geomorphic position (three-dimensional): Risers
Downslope shape: Linear
Across-slope shape: Linear
Aspect (representative): Southwest
Aspect (range): East to northwest (clockwise)

Properties and qualities
Parent material: Eolian and/or marine deposits
Slope range: 3 to 20 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 10.5 inches)

Interpretive groups
Land capability subclass (nonirrigated): 3e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 2 inches; slightly decomposed plant material
A—2 to 11 inches; medial loam
Bw1—11 to 28 inches; loam
Bw2—28 to 45 inches; loam
2C—45 to 62 inches; loamy sand

Characteristics of Ferrelo

Setting
Landform: Marine terraces
Geomorphic position (three-dimensional): Risers
Downslope shape: Convex
Across-slope shape: Linear, convex
Aspect (representative): Southwest
Aspect (range): East to northwest (clockwise)

Properties and qualities
Parent material: Eolian and/or marine deposits
Slope range: 3 to 20 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches

Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 10.5 inches)

Interpretive groups
Land capability subclass (nonirrigated): 3e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A—1 to 19 inches; loam
Bw—19 to 37 inches; loam
2C1—37 to 55 inches; loamy fine sand
2C2—55 to 89 inches; fine sand

Dissimilar Minor Components

Depoe soils
Percentage of map unit: 5 percent
Landform: Depressions of marine terraces

Netarts soils
Percentage of map unit: 5 percent
Landform: Stabilized dunes on marine terraces

7—Dune land

Map Unit Setting

General landscape: Pacific coastal dunefields
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 10 to 50 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 180 to 300 days

Map Unit Composition

Dune land: 80 percent
Dissimilar minor components: 20 percent

Characteristics of Dune Land

Setting
Landform: Active dunes, foredunes, blowouts
Geomorphic position (two-dimensional): Backslopes
Geomorphic position (three-dimensional): Side slopes
Downslope shape: Linear
Across-slope shape: Linear
Aspect (representative): Southwest
Aspect (range): South to west (clockwise)

Properties and qualities
Parent material: Eolian sand
Slope range: 5 to 60 percent
Depth to restrictive feature: None within a depth of 60 inches
Capacity of the most limiting soil layer to transmit water (Ksat): High
Flooding frequency: None
Ponding frequency: None

Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very low (about 2.4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 8
Plant association group: Sitka spruce/dry non-forest (971)

Typical profile
0 to 60 inches; fine sand

Dissimilar Minor Components

Waldport soils, thin surface
Percentage of map unit: 10 percent
Landform: Blowouts, foredunes, recently stabilized dunes on marine terraces

Heceta soils
Percentage of map unit: 5 percent
Landform: Depressions of interdunes

Netarts soils
Percentage of map unit: 5 percent
Landform: Stabilized dunes on marine terraces

8A—Depoe loam, 0 to 3 percent slopes

Map Unit Setting

General landscape: Pacific coastal plains
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 50 to 300 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 180 to 300 days

Map Unit Composition

Depoe and similar soils: 85 percent
Dissimilar minor components: 15 percent

Characteristics of Depoe

Setting
Landform: Depressions of marine terraces
Geomorphic position (three-dimensional): Treads
Downslope shape: Linear
Across-slope shape: Linear

Properties and qualities
Parent material: Loamy eolian deposits over stratified sandy marine deposits
Slope range: 0 to 3 percent
Depth to restrictive feature: 12 to 20 inches to ortstein
Drainage class: Poorly drained
Capacity of the most limiting soil layer to transmit water (Ksat): Low
Flooding frequency: None
Ponding frequency: Frequent (see Water Features table)
Seasonal high water table (minimum depth): About 3 to 7 inches (see Water Features table)

Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 4.1 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6w
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 3 inches; slightly decomposed plant material
E1—3 to 7 inches; loam
E2—7 to 17 inches; silt loam
2Bsm—17 to 31 inches; cemented material
2C—31 to 60 inches; sand

Dissimilar Minor Components

Horseprairie soils
Percentage of map unit: 10 percent
Landform: Marine terraces

Ferrelo soils
Percentage of map unit: 5 percent
Landform: Marine terraces

9B—Waldport fine sand, 0 to 5 percent slopes

Map Unit Setting

General landscape: Pacific coastal plains
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 10 to 400 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 180 to 300 days

Map Unit Composition

Waldport and similar soils: 85 percent
Dissimilar minor components: 15 percent

Characteristics of Waldport

Setting
Landform: Stabilized dunes on marine terraces
Geomorphic position (three-dimensional): Risers
Downslope shape: Linear, concave
Across-slope shape: Linear

Properties and qualities
Parent material: Eolian sand
Slope range: 0 to 5 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Excessively drained
Capacity of the most limiting soil layer to transmit water (Ksat): High
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches

Salinity (maximum): Not saline
Available water capacity (entire profile): Very low (about 2.4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/salal-mesic (901)

Typical profile
A1—0 to 2 inches; fine sand
A2—2 to 6 inches; fine sand
AC—6 to 18 inches; fine sand
C—18 to 60 inches; fine sand

Dissimilar Minor Components

Heceta soils
Percentage of map unit: 5 percent
Landform: Depressions of interdunes

Netarts soils
Percentage of map unit: 5 percent
Landform: Stabilized dunes on marine terraces

Waldport soils, thin surface
Percentage of map unit: 5 percent
Landform: Blowouts, foredunes, recently stabilized dunes on marine terraces

9C—Waldport fine sand, 3 to 15 percent slopes

Map Unit Setting

General landscape: Pacific coastal plains
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 10 to 400 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 180 to 300 days

Map Unit Composition

Waldport and similar soils: 85 percent
Dissimilar minor components: 15 percent

Characteristics of Waldport

Setting
Landform: Stabilized dunes on marine terraces
Geomorphic position (three-dimensional): Risers
Downslope shape: Linear, concave
Across-slope shape: Linear
Aspect (representative): Southwest
Aspect (range): Southeast to west (clockwise)

Properties and qualities
Parent material: Eolian sand
Slope range: 3 to 15 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Excessively drained
Capacity of the most limiting soil layer to transmit water (Ksat): High

Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very low (about 2.4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/salal-mesic (901) (fig. 24)

Figure 24.—Typical native vegetation in an area of Waldport fine sand, 3 to 15 percent slopes.

Typical profile
A1—0 to 2 inches; fine sand
A2—2 to 6 inches; fine sand
AC—6 to 18 inches; fine sand
C—18 to 60 inches; fine sand

Dissimilar Minor Components

Waldport soils, thin surface
Percentage of map unit: 10 percent
Landform: Blowouts, foredunes, recently stabilized dunes on marine terraces

Netarts soils
Percentage of map unit: 3 percent
Landform: Stabilized dunes on marine terraces

Heceta soils
Percentage of map unit: 2 percent
Landform: Depressions of interdunes

9D—Waldport fine sand, 5 to 30 percent slopes

Map Unit Setting

General landscape: Pacific coastal plains
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 10 to 400 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 180 to 300 days

Map Unit Composition

Waldport and similar soils: 85 percent
Dissimilar minor components: 15 percent

Characteristics of Waldport

Setting
Landform: Stabilized dunes on marine terraces
Geomorphic position (three-dimensional): Risers
Downslope shape: Linear, concave
Across-slope shape: Linear
Aspect (representative): South
Aspect (range): Northeast to west (clockwise)

Properties and qualities
Parent material: Eolian sand
Slope range: 5 to 30 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Excessively drained
Capacity of the most limiting soil layer to transmit water (Ksat): High
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very low (about 2.4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/salal-mesic (901)

Typical profile
A1—0 to 2 inches; fine sand
A2—2 to 6 inches; fine sand
AC—6 to 18 inches; fine sand
C—18 to 60 inches; fine sand

Dissimilar Minor Components

Dune land
Percentage of map unit: 5 percent
Landform: Active dunes, foredunes, blowouts

Waldport soils, thin surface
Percentage of map unit: 5 percent
Landform: Blowouts, foredunes, recently stabilized dunes on marine terraces

Heceta soils
Percentage of map unit: 3 percent
Landform: Depressions of interdunes

Yaquina soils
Percentage of map unit: 2 percent
Landform: Depressions of interdunes

9E—Waldport fine sand, 30 to 60 percent slopes

Map Unit Setting

General landscape: Pacific coastal plains
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 10 to 400 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 180 to 300 days

Map Unit Composition

Waldport and similar soils: 85 percent
Dissimilar minor components: 15 percent

Characteristics of Waldport

Setting
Landform: Stabilized dunes on marine terraces
Geomorphic position (three-dimensional): Risers
Downslope shape: Linear, concave
Across-slope shape: Linear
Aspect (representative): South
Aspect (range): Northeast to west (clockwise)

Properties and qualities
Parent material: Eolian sand
Slope range: 30 to 60 percent
Depth to restrictive feature: None within a depth of 60 inches

Drainage class: Excessively drained
Capacity of the most limiting soil layer to transmit water (Ksat): High
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very low (about 2.4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/salal-mesic (901)

Typical profile
A1—0 to 2 inches; fine sand
A2—2 to 6 inches; fine sand
AC—6 to 18 inches; fine sand
C—18 to 60 inches; fine sand

Dissimilar Minor Components

Dune land
Percentage of map unit: 5 percent
Landform: Active dunes, foredunes, blowouts

Waldport soils, thin surface
Percentage of map unit: 5 percent
Landform: Blowouts, foredunes, recently stabilized dunes on marine terraces

Yaquina soils
Percentage of map unit: 3 percent
Landform: Depressions of interdunes

Heceta soils
Percentage of map unit: 2 percent
Landform: Depressions of interdunes

10B—Waldport fine sand, thin surface, 0 to 5 percent slopes

Map Unit Setting

General landscape: Pacific coastal plains
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 10 to 50 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 180 to 300 days

Map Unit Composition

Waldport, thin surface, and similar soils: 85 percent
Dissimilar minor components: 15 percent

Characteristics of Waldport, Thin Surface

Setting
Landform: Blowouts, foredunes, recently stabilized dunes on marine terraces
Geomorphic position (three-dimensional): Risers

Downslope shape: Linear, concave
Across-slope shape: Linear

Properties and qualities
Parent material: Eolian sand
Slope range: 0 to 5 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Excessively drained
Capacity of the most limiting soil layer to transmit water (Ksat): High
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very low (about 2.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/dry non-forest (971)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A—1 to 3 inches; fine sand
C—3 to 60 inches; fine sand

Dissimilar Minor Components

Heceta soils
Percentage of map unit: 10 percent
Landform: Depressions of interdunes

Dune land
Percentage of map unit: 5 percent
Landform: Active dunes, foredunes, blowouts

10C—Waldport fine sand, thin surface, 3 to 12 percent slopes

Map Unit Setting

General landscape: Pacific coastal plains
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 10 to 50 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 180 to 300 days

Map Unit Composition

Waldport, thin surface, and similar soils: 90 percent
Dissimilar minor components: 10 percent

Characteristics of Waldport, Thin Surface

Setting
Landform: Blowouts, foredunes, recently stabilized dunes on marine terraces
Geomorphic position (three-dimensional): Risers

Downslope shape: Linear, concave
Across-slope shape: Linear
Aspect (representative): West
Aspect (range): South to northwest (clockwise)

Properties and qualities
Parent material: Eolian sand
Slope range: 3 to 12 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Excessively drained
Capacity of the most limiting soil layer to transmit water (Ksat): High
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very low (about 2.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/dry non-forest (971)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A—1 to 3 inches; fine sand
C—3 to 60 inches; fine sand

Dissimilar Minor Components

Dune land
Percentage of map unit: 5 percent
Landform: Active dunes, foredunes, blowouts

Yaquina soils
Percentage of map unit: 3 percent
Landform: Depressions of interdunes

Heceta soils
Percentage of map unit: 2 percent
Landform: Depressions of interdunes

10E—Waldport fine sand, thin surface, 15 to 60 percent slopes

Map Unit Setting

General landscape: Pacific coastal plains
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 10 to 50 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 180 to 300 days

Map Unit Composition

Waldport, thin surface, and similar soils: 85 percent
Dissimilar minor components: 15 percent

Characteristics of Waldport, Thin Surface

Setting
Landform: Blowouts, foredunes, recently stabilized dunes on marine terraces
Geomorphic position (three-dimensional): Risers
Downslope shape: Linear, concave
Across-slope shape: Linear
Aspect (representative): South
Aspect (range): Northeast to northwest (clockwise)

Properties and qualities
Parent material: Eolian sand
Slope range: 15 to 60 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Excessively drained
Capacity of the most limiting soil layer to transmit water (Ksat): High
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very low (about 2.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/dry non-forest (971)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A—1 to 3 inches; fine sand
C—3 to 60 inches; fine sand

Dissimilar Minor Components

Dune land
Percentage of map unit: 5 percent
Landform: Active dunes, foredunes, blowouts

Netarts soils
Percentage of map unit: 5 percent
Landform: Stabilized dunes on marine terraces

Waldport soils
Percentage of map unit: 5 percent
Landform: Stabilized dunes on marine terraces

11B—Netarts fine sandy loam, 0 to 5 percent slopes

Map Unit Setting

General landscape: Pacific coastal plains
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 20 to 300 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 180 to 300 days

Map Unit Composition

Netarts and similar soils: 85 percent
Dissimilar minor components: 15 percent

Characteristics of Netarts

Setting
Landform: Stabilized dunes on marine terraces
Geomorphic position (three-dimensional): Treads
Downslope shape: Linear, concave
Across-slope shape: Linear

Properties and qualities
Parent material: Eolian sand
Slope range: 0 to 5 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): High
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 4.8 inches)

Interpretive groups
Land capability subclass (nonirrigated): 4e
Plant association group: Sitka spruce/salal-mesic (901)

Typical profile
Oi—0 to 2 inches; slightly decomposed plant material
A—2 to 5 inches; fine sandy loam
E—5 to 9 inches; loamy fine sand
ABs—9 to 15 inches; loamy fine sand
Bs1—15 to 19 inches; fine sand
Bs2—19 to 37 inches; fine sand
BCs—37 to 54 inches; fine sand
C—54 to 67 inches; fine sand

Dissimilar Minor Components

Ferrelo soils
Percentage of map unit: 5 percent
Landform: Marine terraces

Heceta soils
Percentage of map unit: 5 percent
Landform: Depressions of interdunes

Yaquina soils
Percentage of map unit: 5 percent
Landform: Depressions of interdunes

11C—Netarts fine sandy loam, 3 to 12 percent slopes

Map Unit Setting

General landscape: Pacific coastal plains
Major land resource area (MLRA): 4A—Sitka Spruce Belt

Elevation: 20 to 300 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 180 to 300 days

Map Unit Composition

Netarts and similar soils: 90 percent
Dissimilar minor components: 10 percent

Characteristics of Netarts

Setting
Landform: Stabilized dunes on marine terraces
Geomorphic position (three-dimensional): Treads
Downslope shape: Linear, concave
Across-slope shape: Linear
Aspect (representative): East
Aspect (range): North to southeast (clockwise)

Properties and qualities
Parent material: Eolian sand
Slope range: 3 to 12 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): High
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 4.8 inches)

Interpretive groups
Land capability subclass (nonirrigated): 4e
Plant association group: Sitka spruce/salal-mesic (901)

Typical profile
Oi—0 to 2 inches; slightly decomposed plant material
A—2 to 5 inches; fine sandy loam
E—5 to 9 inches; loamy fine sand
ABs—9 to 15 inches; loamy fine sand
Bs1—15 to 19 inches; fine sand
Bs2—19 to 37 inches; fine sand
BCs—37 to 54 inches; fine sand
C—54 to 67 inches; fine sand

Dissimilar Minor Components

Yaquina soils
Percentage of map unit: 5 percent
Landform: Depressions of interdunes

Heceta soils
Percentage of map unit: 3 percent
Landform: Depressions of interdunes

Ferrelo soils
Percentage of map unit: 2 percent
Landform: Marine terraces

11D—Netarts fine sandy loam, 5 to 30 percent slopes

Map Unit Setting

General landscape: Pacific coastal plains
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 20 to 300 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 180 to 300 days

Map Unit Composition

Netarts and similar soils: 90 percent
Dissimilar minor components: 10 percent

Characteristics of Netarts

Setting
Landform: Stabilized dunes on marine terraces
Geomorphic position (three-dimensional): Treads
Downslope shape: Linear, concave
Across-slope shape: Linear
Aspect (representative): South
Aspect (range): Northeast to west (clockwise)

Properties and qualities
Parent material: Eolian sand
Slope range: 5 to 30 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): High
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 4.8 inches)

Interpretive groups
Land capability subclass (nonirrigated): 4e
Plant association group: Sitka spruce/salal-mesic (901)

Typical profile
Oi—0 to 2 inches; slightly decomposed plant material
A—2 to 5 inches; fine sandy loam
E—5 to 9 inches; loamy fine sand
ABs—9 to 15 inches; loamy fine sand
Bs1—15 to 19 inches; fine sand
Bs2—19 to 37 inches; fine sand
BCs—37 to 54 inches; fine sand
C—54 to 67 inches; fine sand

Dissimilar Minor Components

Ferrelo soils
Percentage of map unit: 5 percent
Landform: Marine terraces

Waldport soils
Percentage of map unit: 5 percent
Landform: Stabilized dunes on marine terraces

11E—Netarts fine sandy loam, 30 to 60 percent slopes

Map Unit Setting

General landscape: Pacific coastal plains
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 20 to 300 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 180 to 300 days

Map Unit Composition

Netarts and similar soils: 90 percent
Dissimilar minor components: 10 percent

Characteristics of Netarts

Setting
Landform: Stabilized dunes on marine terraces
Geomorphic position (three-dimensional): Treads
Downslope shape: Linear, concave
Across-slope shape: Linear
Aspect (representative): South
Aspect (range): Northeast to northwest (clockwise)

Properties and qualities
Parent material: Eolian sand
Slope range: 30 to 60 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): High
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 4.8 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/salal-mesic (901)

Typical profile
Oi—0 to 2 inches; slightly decomposed plant material
A—2 to 5 inches; fine sandy loam
E—5 to 9 inches; loamy fine sand
ABs—9 to 15 inches; loamy fine sand
Bs1—15 to 19 inches; fine sand
Bs2—19 to 37 inches; fine sand
BCs—37 to 54 inches; fine sand
C—54 to 67 inches; fine sand

Dissimilar Minor Components

Waldport soils
Percentage of map unit: 8 percent
Landform: Stabilized dunes on marine terraces

Ferrelo soils
Percentage of map unit: 2 percent
Landform: Marine terraces

12B—Yaquina loamy fine sand, 0 to 5 percent slopes

Map Unit Setting

General landscape: Pacific coastal plains
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 10 to 30 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 180 to 300 days

Map Unit Composition

Yaquina and similar soils: 85 percent
Dissimilar minor components: 15 percent

Characteristics of Yaquina

Setting
Landform: Depressions of interdunes
Geomorphic position (three-dimensional): Treads
Downslope shape: Linear
Across-slope shape: Linear

Properties and qualities
Parent material: Eolian sand
Slope range: 0 to 5 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting soil layer to transmit water (Ksat): High
Flooding frequency: None
Ponding frequency: Frequent (see Water Features table)
Seasonal high water table (minimum depth): At the soil surface to a depth of 7 inches (see Water Features table)
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 4.4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 4w
Plant association group: Sitka spruce/salal-mesic (901)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
E—1 to 7 inches; loamy fine sand
Bs1—7 to 15 inches; fine sand
Bs2—15 to 31 inches; fine sand
C—31 to 61 inches; fine sand

Dissimilar Minor Components

Heceta soils
Percentage of map unit: 10 percent
Landform: Depressions of interdunes

Humaquepts, isomesic
Percentage of map unit: 5 percent
Landform: Coastal freshwater swamps

13B—Waldport, thin surface-Heceta fine sands, 0 to 5 percent slopes

Map Unit Setting

General landscape: Pacific coastal plains
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 10 to 50 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 180 to 300 days

Map Unit Composition

Waldport, thin surface, and similar soils: 70 percent
Heceta and similar soils: 25 percent
Dissimilar minor components: 5 percent

Characteristics of Waldport, Thin Surface

Setting
Landform: Blowouts, foredunes, recently stabilized dunes on marine terraces
Geomorphic position (three-dimensional): Risers
Downslope shape: Linear, concave
Across-slope shape: Linear

Properties and qualities
Parent material: Eolian sand
Slope range: 0 to 5 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Excessively drained
Capacity of the most limiting soil layer to transmit water (Ksat): High
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very low (about 2.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/dry non-forest (971)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A—1 to 3 inches; fine sand
C—3 to 60 inches; fine sand

Characteristics of Heceta

Setting
Landform: Depressions of interdunes
Geomorphic position (three-dimensional): Treads
Downslope shape: Concave
Across-slope shape: Linear

Properties and qualities
Parent material: Eolian sand
Slope range: 0 to 3 percent

Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Poorly drained
Capacity of the most limiting soil layer to transmit water (Ksat): High
Flooding frequency: None
Ponding frequency: Frequent (see Water Features table)
Seasonal high water table (minimum depth): At the soil surface to a depth of 1 inch (see Water Features table)
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 4.7 inches)

Interpretive groups
Land capability subclass (nonirrigated): 4w
Plant association group: Sitka spruce/wet non-forest (991)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A—1 to 6 inches; fine sand
C—6 to 61 inches; sand

Dissimilar Minor Components

Dune land
Percentage of map unit: 3 percent
Landform: Active dunes, foredunes, blowouts

Yaquina soils
Percentage of map unit: 2 percent
Landform: Depressions of interdunes

14A—Heceta fine sand, 0 to 3 percent slopes

Map Unit Setting

General landscape: Pacific coastal plains
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 10 to 30 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 180 to 300 days

Map Unit Composition

Heceta and similar soils: 85 percent
Dissimilar minor components: 15 percent

Characteristics of Heceta

Setting
Landform: Depressions of interdunes
Geomorphic position (three-dimensional): Treads
Downslope shape: Linear
Across-slope shape: Linear

Properties and qualities
Parent material: Eolian sand
Slope range: 0 to 3 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Poorly drained
Capacity of the most limiting soil layer to transmit water (Ksat): High

Flooding frequency: None
Ponding frequency: Frequent (see Water Features table)
Seasonal high water table (minimum depth): At the soil surface to a depth of 1 inch (see Water Features table)
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 4.7 inches)

Interpretive groups
Land capability subclass (nonirrigated): 4w
Plant association group: Sitka spruce/wet non-forest (991)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A—1 to 6 inches; fine sand
C—6 to 61 inches; sand

Dissimilar Minor Components

Waldport soils, thin surface
Percentage of map unit: 5 percent
Landform: Blowouts, foredunes, recently stabilized dunes on marine terraces

Waldport soils
Percentage of map unit: 5 percent
Landform: Stabilized dunes on marine terraces

Yaquina soils
Percentage of map unit: 5 percent
Landform: Depressions of interdunes

15B—Netarts-Yaquina complex, 0 to 5 percent slopes

Map Unit Setting

General landscape: Pacific coastal plains
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 10 to 30 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 180 to 300 days

Map Unit Composition

Netarts and similar soils: 50 percent
Yaquina and similar soils: 45 percent
Dissimilar minor component: 5 percent

Characteristics of Netarts

Setting
Landform: Stabilized dunes on marine terraces
Geomorphic position (three-dimensional): Treads
Downslope shape: Linear, concave
Across-slope shape: Linear

Properties and qualities
Parent material: Eolian sand
Slope range: 0 to 5 percent
Depth to restrictive feature: None within a depth of 60 inches

Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): High
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 4.8 inches)

Interpretive groups
Land capability subclass (nonirrigated): 4e
Plant association group: Sitka spruce/salal-mesic (901)

Typical profile
Oi—0 to 2 inches; slightly decomposed plant material
A—2 to 5 inches; fine sandy loam
E—5 to 9 inches; loamy fine sand
ABs—9 to 15 inches; loamy fine sand
Bs1—15 to 19 inches; fine sand
Bs2—19 to 37 inches; fine sand
BCs—37 to 54 inches; fine sand
C—54 to 67 inches; fine sand

Characteristics of Yaquina

Setting
Landform: Depressions of interdunes
Geomorphic position (three-dimensional): Treads
Downslope shape: Concave
Across-slope shape: Linear

Properties and qualities
Parent material: Eolian sand
Slope range: 0 to 3 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting soil layer to transmit water (Ksat): High
Flooding frequency: None
Ponding frequency: Frequent (see Water Features table)
Seasonal high water table (minimum depth): At the soil surface to a depth of 7 inches (see Water Features table)
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 4.4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 4w
Plant association group: Sitka spruce/salal-mesic (901)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
E—1 to 7 inches; loamy fine sand
Bs1—7 to 15 inches; fine sand
Bs2—15 to 31 inches; fine sand
C—31 to 61 inches; fine sand

Dissimilar Minor Component

Heceta soils
Percentage of map unit: 5 percent
Landform: Depressions of interdunes

16F—Caterl-Laderly-Murtip complex, 60 to 90 percent slopes

Map Unit Setting

General landscape: Coast Range (fig. 25)
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 1,800 to 3,000 feet
Mean annual precipitation: 100 to 130 inches
Mean annual air temperature: 42 to 46 degrees F
Frost-free period: 60 to 100 days

Map Unit Composition

Caterl and similar soils: 45 percent
Laderly and similar soils: 25 percent
Murtip and similar soils: 20 percent
Dissimilar minor components: 10 percent

Characteristics of Caterl

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, footslopes

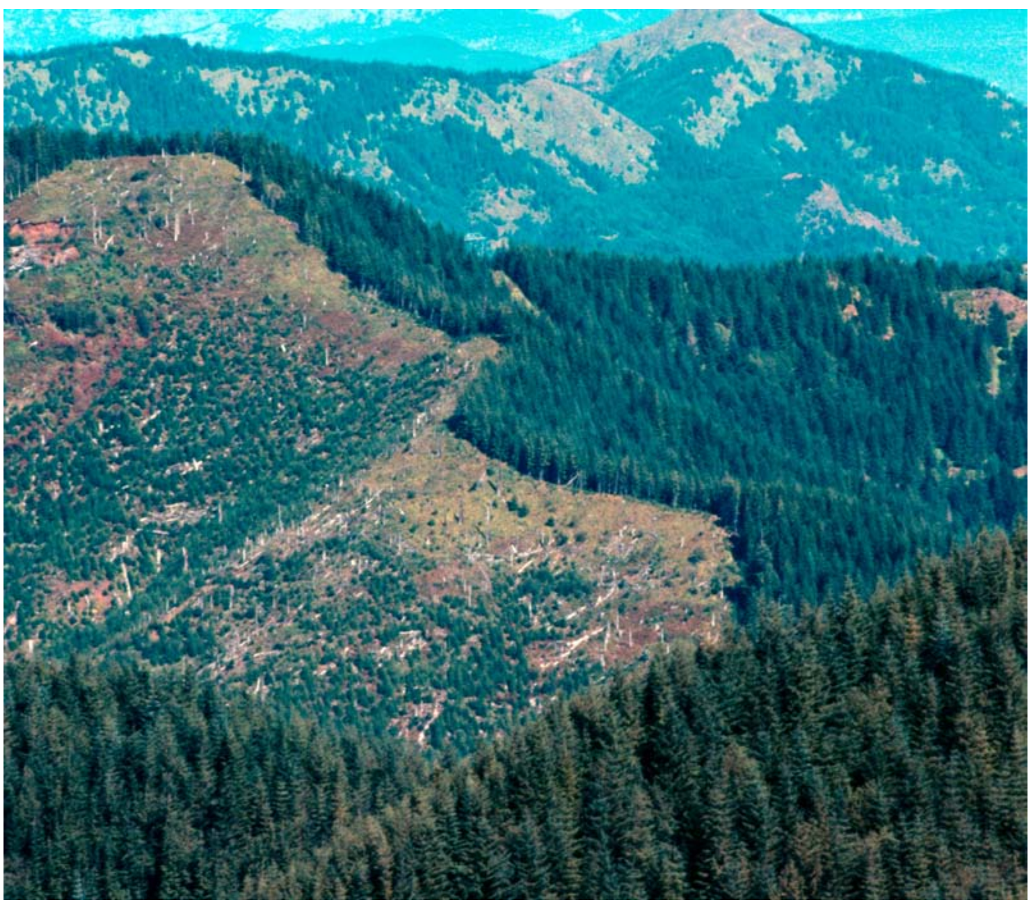

Figure 25.—Area of Caterl-Laderly-Murtip complex, 60 to 90 percent slopes. The Laderly soils on the shoulder slopes support more grass and low-growing shrubs and brush than the deeper soils just below.

Geomorphic position (three-dimensional): Upper third of mountain flanks, lower third of mountain flanks
Downslope shape: Concave
Across-slope shape: Concave
Aspect (range): All aspects

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 60 to 90 percent
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Moderate (about 7.5 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7e
Plant association group: Western hemlock/Alaska huckleberry/oxalis (1909)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 6 inches; gravelly medial loam
A2—6 to 12 inches; very gravelly medial loam
A3—12 to 18 inches; very gravelly medial loam
Bw—18 to 35 inches; very gravelly medial loam
BC—35 to 53 inches; extremely cobbly medial loam
R—53 to 57 inches; unweathered bedrock

Characteristics of Laderly

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, shoulders
Geomorphic position (three-dimensional): Center third of mountain flanks
Downslope shape: Convex
Across-slope shape: Convex
Aspect (range): All aspects

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 60 to 90 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): High
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7e
Plant association group: Western hemlock/Alaska huckleberry/oxalis (1909)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A—1 to 13 inches; very gravelly medial loam
Bw1—13 to 22 inches; very gravelly medial loam
Bw2—22 to 30 inches; extremely cobbly medial loam
R—30 to 34 inches; unweathered bedrock

Characteristics of Murtip

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Footslopes
Geomorphic position (three-dimensional): Lower third of mountain flanks
Downslope shape: Linear
Across-slope shape: Concave, convex, linear
Aspect (range): All aspects

Properties and qualities
Parent material: Colluvium and residuum derived from igneous rock and tuff
Slope range: 60 to 90 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 13.5 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7e
Plant association group: Western hemlock/Alaska huckleberry/oxalis (1909)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 7 inches; medial loam
A2—7 to 14 inches; medial loam
Bw1—14 to 24 inches; medial loam
Bw2—24 to 43 inches; medial loam
BC—43 to 50 inches; gravelly medial loam
Cr—50 to 60 inches; weathered bedrock

Dissimilar Minor Components

Rock outcrop
Percentage of map unit: 5 percent
Landform: Mountain slopes

Romanose soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

17B—Chitwood-Hebo complex, 0 to 5 percent slopes

Map Unit Setting

General landscape: Coastal river valleys
Major land resource area (MLRA): 4A—Sitka Spruce Belt

Elevation: 20 to 300 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 300 days

Map Unit Composition

Chitwood and similar soils: 50 percent
Hebo and similar soils: 35 percent
Dissimilar minor components: 15 percent

Characteristics of Chitwood

Setting
Landform: Fluviomarine terraces, stream terraces
Geomorphic position (three-dimensional): Risers, treads
Downslope shape: Linear
Across-slope shape: Linear

Properties and qualities
Parent material: Mixed alluvium and/or fluviomarine deposits derived from sedimentary rock
Slope range: 0 to 5 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately low
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): About 11 to 19 inches (see Water Features table)
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 12.4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 3e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 7 inches; medial silt loam
A—7 to 11 inches; silt loam
BA—11 to 19 inches; silty clay loam
Bw—19 to 29 inches; silty clay
BC—29 to 60 inches; silty clay loam

Characteristics of Hebo

Setting
Landform: Depressions of stream terraces, drainageways of fluviomarine terraces
Geomorphic position (three-dimensional): Treads, risers
Downslope shape: Linear, concave
Across-slope shape: Linear

Properties and qualities
Parent material: Mixed alluvium and/or fluviomarine deposits derived from sedimentary rock
Slope range: 0 to 3 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Poorly drained
Capacity of the most limiting soil layer to transmit water (Ksat): Low

Flooding frequency: None
Ponding frequency: Frequent (see Water Features table)
Seasonal high water table (minimum depth): At the soil surface to a depth of 4 inches (see Water Features table)
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 10.6 inches)

Interpretive groups
Land capability subclass (nonirrigated): 4w
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 4 inches; silty clay loam
BA—4 to 10 inches; silty clay
Bg1—10 to 18 inches; clay
Bg2—18 to 26 inches; clay
BCg—26 to 35 inches; silty clay
2Cg—35 to 60 inches; clay loam

Dissimilar Minor Components

Knappa soils
Percentage of map unit: 5 percent
Landform: Fluviomarine terraces, coastal stream terraces

Mues soils
Percentage of map unit: 5 percent
Landform: Fluviomarine terraces, coastal stream terraces

Walluski soils
Percentage of map unit: 5 percent
Landform: Fluviomarine terraces, coastal stream terraces

18B—Chitwood medial silt loam, 0 to 7 percent slopes

Map Unit Setting

General landscape: Coastal river valleys
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 20 to 300 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 300 days

Map Unit Composition

Chitwood and similar soils: 80 percent
Dissimilar minor components: 20 percent

Characteristics of Chitwood

Setting
Landform: Fluviomarine terraces, stream terraces
Geomorphic position (three-dimensional): Risers, treads
Downslope shape: Linear
Across-slope shape: Linear

Properties and qualities
Parent material: Mixed alluvium and/or fluviomarine deposits derived from sedimentary rock

Slope range: 0 to 7 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately low
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): About 11 to 19 inches (see Water Features table)
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 12.4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 3e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 7 inches; medial silt loam
A—7 to 11 inches; silt loam
BA—11 to 19 inches; silty clay loam
Bw—19 to 29 inches; silty clay
BC—29 to 60 inches; silty clay loam

Dissimilar Minor Components

Hebo soils
Percentage of map unit: 5 percent
Landform: Depressions of coastal stream and fluviomarine terraces

Knappa soils
Percentage of map unit: 5 percent
Landform: Fluviomarine terraces, coastal stream terraces

Mues soils
Percentage of map unit: 5 percent
Landform: Coastal stream terraces

Walluski soils
Percentage of map unit: 5 percent
Landform: Fluviomarine terraces, coastal stream terraces

18C—Chitwood medial silt loam, 7 to 15 percent slopes

Map Unit Setting

General landscape: Coastal river valleys
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 20 to 300 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 300 days

Map Unit Composition

Chitwood and similar soils: 80 percent
Dissimilar minor components: 20 percent

Characteristics of Chitwood

Setting
Landform: Fluviomarine terraces, stream terraces
Geomorphic position (three-dimensional): Risers, treads

Downslope shape: Linear
Across-slope shape: Linear
Aspect (representative): Southwest
Aspect (range): Southeast to northwest (clockwise)

Properties and qualities
Parent material: Mixed alluvium and/or fluviomarine deposits derived from sedimentary rock
Slope range: 7 to 15 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately low
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): About 11 to 19 inches (see Water Features table)
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 12.4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 3e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 7 inches; medial silt loam
A—7 to 11 inches; silt loam
BA—11 to 19 inches; silty clay loam
Bw—19 to 29 inches; silty clay
BC—29 to 60 inches; silty clay loam

Dissimilar Minor Components

Walluski soils
Percentage of map unit: 10 percent
Landform: Fluviomarine terraces, coastal stream terraces

Hebo soils
Percentage of map unit: 5 percent
Landform: Depressions of coastal stream and fluviomarine terraces

Knappa soils
Percentage of map unit: 5 percent
Landform: Fluviomarine terraces, coastal stream terraces

19E—Klootchie medial silt loam, 30 to 60 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 50 to 1,800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Map Unit Composition

Klootchie and similar soils: 85 percent
Dissimilar minor components: 15 percent

Characteristics of Klootchie

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, footslopes
Geomorphic position (three-dimensional): Mountain flanks
Downslope shape: Convex, concave, linear
Across-slope shape: Convex, concave, linear
Aspect (range): All aspects

Properties and qualities
Parent material: Colluvium and residuum derived from igneous rock and tuff
Slope range: 30 to 60 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 21.4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 9 inches; medial silt loam
A2—9 to 19 inches; medial silt loam
Bw1—19 to 44 inches; medial silty clay loam
Bw2—44 to 68 inches; medial silty clay loam

Dissimilar Minor Components

Templeton soils
Percentage of map unit: 10 percent
Landform: Hillslopes, mountain slopes

Neotsu soils
Percentage of map unit: 3 percent
Landform: Hillslopes, mountain slopes

Necanicum soils
Percentage of map unit: 2 percent
Landform: Mountain slopes

20D—Klootchie-Necanicum complex, 5 to 30 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 50 to 1,800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Map Unit Composition

Klootchie and similar soils: 60 percent
Necanicum and similar soils: 25 percent
Dissimilar minor components: 15 percent

Characteristics of Klootchie

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Summits, toeslopes
Geomorphic position (three-dimensional): Mountaintops, mountain bases
Downslope shape: Concave
Across-slope shape: Concave, linear
Aspect (representative): West
Aspect (range): Southeast to north (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from igneous rock and tuff
Slope range: 5 to 30 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 21.4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 9 inches; medial silt loam
A2—9 to 19 inches; medial silt loam
Bw1—19 to 44 inches; medial silty clay loam
Bw2—44 to 68 inches; medial silty clay loam

Characteristics of Necanicum

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Summits, footslopes
Geomorphic position (three-dimensional): Mountaintops, mountain bases
Downslope shape: Convex, linear
Across-slope shape: Convex, linear
Aspect (representative): West
Aspect (range): Southeast to north (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock and tuff
Slope range: 5 to 30 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None

Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Moderate (about 8.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 10 inches; very gravelly medial loam
A2—10 to 18 inches; very gravelly medial loam
Bw1—18 to 27 inches; very gravelly medial loam
Bw2—27 to 49 inches; extremely cobbly medial loam
Bw3—49 to 71 inches; extremely cobbly medial loam

Dissimilar Minor Components

Neotsu soils
Percentage of map unit: 10 percent
Landform: Mountain slopes

Lebam soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

20E—Klootchie-Necanicum complex, 30 to 60 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 50 to 1,800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Map Unit Composition

Klootchie and similar soils: 55 percent
Necanicum and similar soils: 30 percent
Dissimilar minor components: 15 percent

Characteristics of Klootchie

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Footslopes, backslopes
Geomorphic position (three-dimensional): Center third of mountain flanks, lower third of mountain flanks
Downslope shape: Concave
Across-slope shape: Concave, linear
Aspect (range): All aspects

Properties and qualities
Parent material: Colluvium and residuum derived from igneous rock and tuff
Slope range: 30 to 60 percent
Depth to restrictive feature: None within a depth of 60 inches

Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 21.4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 9 inches; medial silt loam
A2—9 to 19 inches; medial silt loam
Bw1—19 to 44 inches; medial silty clay loam
Bw2—44 to 68 inches; medial silty clay loam

Characteristics of Necanicum

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, footslopes
Geomorphic position (three-dimensional): Upper third of mountain flanks, lower third of mountain flanks
Downslope shape: Convex, linear
Across-slope shape: Convex, linear
Aspect (range): All aspects

Properties and qualities
Parent material: Colluvium derived from igneous rock and tuff
Slope range: 30 to 60 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Moderate (about 8.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 10 inches; very gravelly medial loam
A2—10 to 18 inches; very gravelly medial loam
Bw1—18 to 27 inches; very gravelly medial loam
Bw2—27 to 49 inches; extremely cobbly medial loam
Bw3—49 to 71 inches; extremely cobbly medial loam

Dissimilar Minor Components

Ascar soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Lebam soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Neotsu soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

21F—Necanicum-Ascar-Klootchie complex, 60 to 90 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 50 to 1,800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Map Unit Composition

Necanicum and similar soils: 40 percent
Ascar and similar soils: 25 percent
Klootchie and similar soils: 20 percent
Dissimilar minor components: 15 percent

Characteristics of Necanicum

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, footslopes
Geomorphic position (three-dimensional): Center third of mountain flanks, lower third of mountain flanks
Downslope shape: Convex
Across-slope shape: Convex
Aspect (range): All aspects

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 60 to 90 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Moderate (about 8.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 10 inches; very gravelly medial loam
A2—10 to 18 inches; very gravelly medial loam

Bw1—18 to 27 inches; very gravelly medial loam
Bw2—27 to 49 inches; extremely cobbly medial loam
Bw3—49 to 71 inches; extremely cobbly medial loam

Characteristics of Ascar

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, shoulders
Geomorphic position (three-dimensional): Upper third of mountain flanks
Downslope shape: Linear, concave
Across-slope shape: Linear, convex
Aspect (range): All aspects

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 60 to 90 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): High
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 5 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7s
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 9 inches; extremely gravelly medial loam
A2—9 to 25 inches; extremely cobbly medial loam
Bw—25 to 39 inches; extremely cobbly medial loam
R—39 to 43 inches; unweathered bedrock

Characteristics of Klootchie

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Footslopes
Geomorphic position (three-dimensional): Lower third of mountain flanks
Downslope shape: Concave
Across-slope shape: Concave
Aspect (range): All aspects

Properties and qualities
Parent material: Colluvium and residuum derived from igneous rock
Slope range: 60 to 90 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 21.4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 9 inches; medial silt loam
A2—9 to 19 inches; medial silt loam
Bw1—19 to 44 inches; medial silty clay loam
Bw2—44 to 68 inches; medial silty clay loam

Dissimilar Minor Components

Lithic Fulvudands
Percentage of map unit: 8 percent
Landform: Mountain slopes

Rock outcrop
Percentage of map unit: 7 percent
Landform: Mountain slopes

22F—Ascar-Necanicum-Rock outcrop complex, 60 to 90 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 50 to 1,800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Map Unit Composition

Ascar and similar soils: 35 percent
Necanicum and similar soils: 30 percent
Rock outcrop: 20 percent
Dissimilar minor components: 15 percent

Characteristics of Ascar

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Shoulders, backslopes
Geomorphic position (three-dimensional): Upper third of mountain flanks
Downslope shape: Convex
Across-slope shape: Convex
Aspect (representative): Southeast
Aspect (range): North to west (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 60 to 90 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): High
Flooding frequency: None
Ponding frequency: None

Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 5 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7s
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 9 inches; extremely gravelly medial loam
A2—9 to 25 inches; extremely cobbly medial loam
Bw—25 to 39 inches; extremely cobbly medial loam
R—39 to 43 inches; unweathered bedrock

Characteristics of Necanicum

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, footslopes
Geomorphic position (three-dimensional): Center third of mountain flanks, lower third of mountain flanks
Downslope shape: Concave
Across-slope shape: Concave
Aspect (representative): Southeast
Aspect (range): North to west (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 60 to 90 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Moderate (about 8.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 10 inches; very gravelly medial loam
A2—10 to 18 inches; very gravelly medial loam
Bw1—18 to 27 inches; very gravelly medial loam
Bw2—27 to 49 inches; extremely cobbly medial loam
Bw3—49 to 71 inches; extremely cobbly medial loam

Characteristics of Rock Outcrop

Landform: Mountain slopes
Geomorphic position (two-dimensional): Shoulders
Geomorphic position (three-dimensional): Free faces
Slope range: 60 to 90 percent
Land capability subclass (nonirrigated): 8
Typical profile: R—0 to 60 inches; unweathered bedrock

Dissimilar Minor Components

Lithic Fulvudands
Percentage of map unit: 10 percent
Landform: Mountain slopes

Klootchie soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

23F—Rock outcrop-Ascar complex, 40 to 100 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 50 to 1,800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Map Unit Composition

Rock outcrop: 60 percent
Ascar and similar soils: 25 percent
Dissimilar minor components: 15 percent

Characteristics of Rock Outcrop

Landform: Mountain slopes
Geomorphic position (two-dimensional): Shoulders
Geomorphic position (three-dimensional): Free faces
Slope range: 40 to 100 percent
Land capability subclass (nonirrigated): 8
Typical profile: R—0 to 60 inches; unweathered bedrock

Characteristics of Ascar

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, footslopes
Geomorphic position (three-dimensional): Mountain flanks
Downslope shape: Concave
Across-slope shape: Concave, linear
Aspect (representative): West
Aspect (range): South to northwest (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 40 to 90 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): High
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 5 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7s
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 9 inches; extremely gravelly medial loam
A2—9 to 25 inches; extremely cobbly medial loam
Bw—25 to 39 inches; extremely cobbly medial loam
R—39 to 43 inches; unweathered bedrock

Dissimilar Minor Components

Ascar soils, stony surface
Percentage of map unit: 5 percent
Landform: Mountain slopes

Necanicum soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Lithic Fulvudands
Percentage of map unit: 5 percent
Landform: Mountain slopes

24C—Lebam medial silt loam, 3 to 12 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 50 to 1,800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Map Unit Composition

Lebam and similar soils: 85 percent
Dissimilar minor components: 15 percent

Characteristics of Lebam

Setting
Landform: Hillslopes
Geomorphic position (two-dimensional): Footslopes, summits
Geomorphic position (three-dimensional): Base slopes, interfluves
Downslope shape: Linear, convex, concave
Across-slope shape: Linear, convex, concave
Aspect (representative): West
Aspect (range): Southeast to north (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from tuffaceous sedimentary rock
Slope range: 3 to 12 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None

Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 15.1 inches)

Interpretive groups
Land capability subclass (nonirrigated): 4e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 10 inches; medial silt loam
A2—10 to 18 inches; medial silt loam
Bw1—18 to 44 inches; silty clay loam
Bw2—44 to 61 inches; very paragravelly silty clay loam
Bw3—61 to 76 inches; very paragravelly silty clay loam

Dissimilar Minor Components

Klootchie soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Necanicum soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Templeton soils
Percentage of map unit: 5 percent
Landform: Hillslopes

24D—Lebam medial silt loam, 5 to 30 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 50 to 1,800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Map Unit Composition

Lebam and similar soils: 85 percent
Dissimilar minor components: 15 percent

Characteristics of Lebam

Setting
Landform: Hillslopes
Geomorphic position (two-dimensional): Footslopes, summits
Geomorphic position (three-dimensional): Base slopes, interfluves
Downslope shape: Linear, convex, concave
Across-slope shape: Linear, convex, concave
Aspect (representative): West
Aspect (range): Southeast to north (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from tuffaceous sedimentary rock
Slope range: 5 to 30 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 15.1 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 10 inches; medial silt loam
A2—10 to 18 inches; medial silt loam
Bw1—18 to 44 inches; silty clay loam
Bw2—44 to 61 inches; very paragravelly silty clay loam
Bw3—61 to 76 inches; very paragravelly silty clay loam

Dissimilar Minor Components

Klootchie soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Templeton soils
Percentage of map unit: 5 percent
Landform: Hillslopes

Neotsu soils
Percentage of map unit: 3 percent
Landform: Hillslopes

Necanicum soils
Percentage of map unit: 2 percent
Landform: Mountain slopes

25E—Lebam-Necanicum complex, 30 to 60 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 50 to 1,800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Map Unit Composition

Lebam and similar soils: 60 percent
Necanicum and similar soils: 20 percent
Dissimilar minor components: 20 percent

Characteristics of Lebam

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Footslopes, backslopes
Geomorphic position (three-dimensional): Center third of mountain flanks, lower third of mountain flanks
Downslope shape: Concave, linear
Across-slope shape: Concave, linear
Aspect (representative): West
Aspect (range): Southeast to north (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from tuffaceous sedimentary rock
Slope range: 30 to 60 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 15.1 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 10 inches; medial silt loam
A2—10 to 18 inches; medial silt loam
Bw1—18 to 44 inches; silty clay loam
Bw2—44 to 61 inches; very paragravelly silty clay loam
Bw3—61 to 76 inches; very paragravelly silty clay loam

Characteristics of Necanicum

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, footslopes
Geomorphic position (three-dimensional): Upper third of mountain flanks, lower third of mountain flanks
Downslope shape: Convex, linear
Across-slope shape: Convex
Aspect (representative): West
Aspect (range): Southeast to north (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock and tuff
Slope range: 30 to 60 percent
Depth to restrictive feature: None within a depth of 60 inches

Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Moderate (about 8.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 10 inches; very gravelly medial loam
A2—10 to 18 inches; very gravelly medial loam
Bw1—18 to 27 inches; very gravelly medial loam
Bw2—27 to 49 inches; extremely cobbly medial loam
Bw3—49 to 71 inches; extremely cobbly medial loam

Dissimilar Minor Components

Klootchie soils
Percentage of map unit: 10 percent
Landform: Mountain slopes

Neotsu soils
Percentage of map unit: 10 percent
Landform: Mountain slopes

26F—Lebam-Necanicum complex, 60 to 90 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 50 to 1,800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Map Unit Composition

Lebam and similar soils: 55 percent
Necanicum and similar soils: 25 percent
Dissimilar minor components: 20 percent

Characteristics of Lebam

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Footslopes, backslopes
Geomorphic position (three-dimensional): Center third of mountain flanks, lower third of mountain flanks
Downslope shape: Concave, linear
Across-slope shape: Concave, convex, linear

Aspect (representative): Southwest
Aspect (range): East to northwest (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from tuffaceous sedimentary rock
Slope range: 60 to 90 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 15.1 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 10 inches; medial silt loam
A2—10 to 18 inches; medial silt loam
Bw1—18 to 44 inches; silty clay loam
Bw2—44 to 61 inches; very paragravelly silty clay loam
Bw3—61 to 76 inches; very paragravelly silty clay loam

Characteristics of Necanicum

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, footslopes
Geomorphic position (three-dimensional): Upper third of mountain flanks, lower third of mountain flanks
Downslope shape: Convex, linear
Across-slope shape: Convex
Aspect (representative): Southwest
Aspect (range): East to northwest (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock and tuff
Slope range: 60 to 90 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Moderate (about 8.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 10 inches; very gravelly medial loam

A2—10 to 18 inches; very gravelly medial loam
Bw1—18 to 27 inches; very gravelly medial loam
Bw2—27 to 49 inches; extremely cobbly medial loam
Bw3—49 to 71 inches; extremely cobbly medial loam

Dissimilar Minor Components

Neotsu soils
Percentage of map unit: 10 percent
Landform: Mountain slopes

Klootchie soils
Percentage of map unit: 8 percent
Landform: Mountain slopes

Rock outcrop
Percentage of map unit: 2 percent
Landform: Mountain slopes

28D—Templeton-Necanicum complex, 5 to 30 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 50 to 1,800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Map Unit Composition

Templeton and similar soils: 60 percent
Necanicum and similar soils: 25 percent
Dissimilar minor components: 15 percent

Characteristics of Templeton

Setting
Landform: Landslide deposits on mountain slopes
Geomorphic position (two-dimensional): Footslopes
Geomorphic position (three-dimensional): Mountain bases
Downslope shape: Linear, concave
Across-slope shape: Linear, concave
Aspect (representative): West
Aspect (range): South to north (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 5 to 30 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches

Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 14.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Oi—0 to 2 inches; slightly decomposed plant material
A—2 to 15 inches; medial silt loam
Bw1—15 to 28 inches; silty clay loam
Bw2—28 to 43 inches; silty clay loam
Bw3—43 to 54 inches; silty clay loam
Bw4—54 to 59 inches; paragravelly silty clay loam
Cr—59 to 69 inches; weathered bedrock

Characteristics of Necanicum

Setting
Landform: Landslide deposits on mountain slopes
Geomorphic position (two-dimensional): Toeslopes
Geomorphic position (three-dimensional): Mountain bases
Downslope shape: Convex, linear
Across-slope shape: Convex, concave
Aspect (representative): West
Aspect (range): South to north (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock and tuff
Slope range: 5 to 30 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Moderate (about 8.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 10 inches; very gravelly medial loam
A2—10 to 18 inches; very gravelly medial loam
Bw1—18 to 27 inches; very gravelly medial loam
Bw2—27 to 49 inches; extremely cobbly medial loam
Bw3—49 to 71 inches; extremely cobbly medial loam

Dissimilar Minor Components

Klootchie soils
Percentage of map unit: 8 percent
Landform: Landslides on mountain slopes

Skipanon soils
Percentage of map unit: 5 percent
Landform: Landslides on mountain slopes

Lebam soils
Percentage of map unit: 2 percent
Landform: Landslides on mountain slopes

29D—Templeton-Klootchie complex, 5 to 30 percent slopes

Map Unit Setting

General landscape: Coast Range (fig. 26)
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 50 to 1,800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Map Unit Composition

Templeton and similar soils: 50 percent
Klootchie and similar soils: 35 percent
Dissimilar minor components: 15 percent

Characteristics of Templeton

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Summits, footslopes
Geomorphic position (three-dimensional): Mountaintops, mountain bases

Figure 26.—Area of Templeton-Klootchie complex, 5 to 30 percent slopes, in foreground and Templeton-Klootchie complex, 30 to 60 percent slopes, in steeper areas in background.

Downslope shape: Linear, concave
Across-slope shape: Linear, concave
Aspect (representative): West
Aspect (range): Southeast to northeast (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 5 to 30 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 14.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Oi—0 to 2 inches; slightly decomposed plant material
A—2 to 15 inches; medial silt loam
Bw1—15 to 28 inches; silty clay loam
Bw2—28 to 43 inches; silty clay loam
Bw3—43 to 54 inches; silty clay loam
Bw4—54 to 59 inches; paragravelly silty clay loam
Cr—59 to 69 inches; weathered bedrock

Characteristics of Klootchie

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Summits, toeslopes
Geomorphic position (three-dimensional): Mountaintops, mountain bases
Downslope shape: Convex, linear
Across-slope shape: Convex, concave
Aspect (representative): West
Aspect (range): Southeast to northeast (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from igneous rock and tuff
Slope range: 5 to 30 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 21.4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 9 inches; medial silt loam
A2—9 to 19 inches; medial silt loam
Bw1—19 to 44 inches; medial silty clay loam
Bw2—44 to 68 inches; medial silty clay loam

Dissimilar Minor Components

Ascar soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Necanicum soils
Percentage of map unit: 5 percent
Landform: Landslides on mountain slopes

Skipanon soils
Percentage of map unit: 5 percent
Landform: Landslides on mountain slopes

29E—Templeton-Klootchie complex, 30 to 60 percent slopes

Map Unit Setting

General landscape: Coast Range (fig. 26)
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 50 to 1,800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Map Unit Composition

Templeton and similar soils: 45 percent
Klootchie and similar soils: 40 percent
Dissimilar minor components: 15 percent

Characteristics of Templeton

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Footslopes, backslopes
Geomorphic position (three-dimensional): Upper third of mountain flanks, lower third of mountain flanks
Downslope shape: Concave, linear
Across-slope shape: Concave, linear
Aspect (representative): West
Aspect (range): Southeast to north (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 30 to 60 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained

Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 14.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 2 inches; slightly decomposed plant material
A—2 to 15 inches; medial silt loam
Bw1—15 to 28 inches; silty clay loam
Bw2—28 to 43 inches; silty clay loam
Bw3—43 to 54 inches; silty clay loam
Bw4—54 to 59 inches; paragravelly silty clay loam
Cr—59 to 69 inches; weathered bedrock

Characteristics of Klootchie

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, footslopes
Geomorphic position (three-dimensional): Center third of mountain flanks, lower third of mountain flanks
Downslope shape: Convex, linear
Across-slope shape: Convex, concave
Aspect (representative): West
Aspect (range): Southeast to north (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from igneous rock and tuff
Slope range: 30 to 60 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 21.4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 9 inches; medial silt loam
A2—9 to 19 inches; medial silt loam
Bw1—19 to 44 inches; medial silty clay loam
Bw2—44 to 68 inches; medial silty clay loam

Dissimilar Minor Components

Ecola soils
Percentage of map unit: 10 percent
Landform: Hillslopes, mountain slopes

Ascar soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

30D—Templeton medial silt loam, 5 to 30 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 50 to 1,800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Map Unit Composition

Templeton and similar soils: 85 percent
Dissimilar minor components: 15 percent

Characteristics of Templeton

Setting
Landform: Hillslopes, mountain slopes
Geomorphic position (two-dimensional): Summits, footslopes, toeslopes
Geomorphic position (three-dimensional): Mountaintops, mountain bases, interfluves, base slopes
Downslope shape: Linear, concave, convex
Across-slope shape: Linear, convex, concave
Aspect (representative): Southwest
Aspect (range): East to north (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 5 to 30 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 14.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Oi—0 to 2 inches; slightly decomposed plant material
A—2 to 15 inches; medial silt loam
Bw1—15 to 28 inches; silty clay loam
Bw2—28 to 43 inches; silty clay loam
Bw3—43 to 54 inches; silty clay loam
Bw4—54 to 59 inches; paragravelly silty clay loam
Cr—59 to 69 inches; weathered bedrock

Dissimilar Minor Components

Klootchie soils
Percentage of map unit: 4 percent
Landform: Mountain slopes

Munsoncreek soils
Percentage of map unit: 4 percent
Landform: Hillslopes, mountain slopes

Tolovana soils
Percentage of map unit: 4 percent
Landform: Hillslopes, mountain slopes

Ascar soils
Percentage of map unit: 3 percent
Landform: Mountain slopes

30E—Templeton-Ecola medial silt loams, 30 to 60 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 50 to 1,800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Map Unit Composition

Templeton and similar soils: 60 percent
Ecola and similar soils: 20 percent
Dissimilar minor components: 20 percent

Characteristics of Templeton

Setting
Landform: Mountain slopes, hillslopes
Geomorphic position (two-dimensional): Backslopes, footslopes
Geomorphic position (three-dimensional): Center third of mountain flanks, lower third of mountain flanks, side slopes
Downslope shape: Concave, linear
Across-slope shape: Concave, linear
Aspect (range): All aspects

Properties and qualities
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 30 to 60 percent

Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 14.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 2 inches; slightly decomposed plant material
A—2 to 15 inches; medial silt loam
Bw1—15 to 28 inches; silty clay loam
Bw2—28 to 43 inches; silty clay loam
Bw3—43 to 54 inches; silty clay loam
Bw4—54 to 59 inches; paragravelly silty clay loam
Cr—59 to 69 inches; weathered bedrock

Characteristics of Ecola

Setting
Landform: Mountain slopes, hillslopes
Geomorphic position (two-dimensional): Shoulders, backslopes, footslopes
Geomorphic position (three-dimensional): Upper third of mountain flanks, lower third of mountain flanks, nose slopes
Downslope shape: Convex, linear
Across-slope shape: Convex
Aspect (range): All aspects

Properties and qualities
Parent material: Colluvium derived from sedimentary rock
Slope range: 30 to 60 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 9.5 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 3 inches; slightly decomposed plant material
A—3 to 12 inches; medial silt loam
AB—12 to 19 inches; paragravelly silt loam
Bw—19 to 36 inches; very paragravelly silty clay loam
Cr—36 to 46 inches; weathered bedrock

Dissimilar Minor Components

Ascar soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Munsoncreek soils
Percentage of map unit: 5 percent
Landform: Hillslopes, mountain slopes

Neotsu soils
Percentage of map unit: 5 percent
Landform: Hillslopes, mountain slopes

Svensen soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

30F—Templeton-Ecola medial silt loams, 60 to 90 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 50 to 1,800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Map Unit Composition

Templeton and similar soils: 45 percent
Ecola and similar soils: 40 percent
Dissimilar minor components: 15 percent

Characteristics of Templeton

Setting
Landform: Mountain slopes, hillslopes
Geomorphic position (two-dimensional): Shoulders, backslopes, footslopes
Geomorphic position (three-dimensional): Upper third of mountain flanks, lower third of mountain flanks, nose slopes
Downslope shape: Concave, linear
Across-slope shape: Concave, linear
Aspect (representative): North
Aspect (range): South to southeast (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 60 to 90 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches

Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 14.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 2 inches; slightly decomposed plant material
A—2 to 15 inches; medial silt loam
Bw1—15 to 28 inches; silty clay loam
Bw2—28 to 43 inches; silty clay loam
Bw3—43 to 54 inches; silty clay loam
Bw4—54 to 59 inches; paragravelly silty clay loam
Cr—59 to 69 inches; weathered bedrock

Characteristics of Ecola

Setting
Landform: Mountain slopes, hillslopes
Geomorphic position (two-dimensional): Shoulders, backslopes, footslopes
Geomorphic position (three-dimensional): Upper third of mountain flanks, lower third of mountain flanks
Downslope shape: Convex, concave
Across-slope shape: Convex
Aspect (representative): North
Aspect (range): South to southeast (clockwise)

Properties and qualities
Parent material: Colluvium derived from sedimentary rock
Slope range: 60 to 90 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 9.5 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 3 inches; slightly decomposed plant material
A—3 to 12 inches; medial silt loam
AB—12 to 19 inches; paragravelly silt loam
Bw—19 to 36 inches; very paragravelly silty clay loam
Cr—36 to 46 inches; weathered bedrock

Dissimilar Minor Components

Svensen soils
Percentage of map unit: 7 percent
Landform: Mountain slopes

Ascar soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Neotsu soils
Percentage of map unit: 3 percent
Landform: Hillslopes, mountain slopes

31D—Tolovana-Templeton medial silt loams, 5 to 30 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 50 to 1,800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Map Unit Composition

Tolovana and similar soils: 45 percent
Templeton and similar soils: 40 percent
Dissimilar minor components: 15 percent

Characteristics of Tolovana

Setting
Landform: Hillslopes, mountain slopes
Geomorphic position (two-dimensional): Summits, toeslopes
Geomorphic position (three-dimensional): Mountain bases, mountaintops, base slopes, interfluves
Downslope shape: Linear, concave
Across-slope shape: Linear, concave
Aspect (representative): West
Aspect (range): Southeast to northeast (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from tuffaceous sedimentary rock
Slope range: 5 to 30 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 15.4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 6 inches; medial silt loam
A2—6 to 9 inches; medial silt loam
A3—9 to 20 inches; medial silt loam

2Bw1—20 to 27 inches; silty clay loam
2Bw2—27 to 38 inches; silty clay loam
2Bw3—38 to 48 inches; paragravelly clay loam
2BC—48 to 60 inches; very paragravelly clay loam

Characteristics of Templeton

Setting
Landform: Hillslopes, mountain slopes
Geomorphic position (two-dimensional): Summits, footslopes
Geomorphic position (three-dimensional): Mountaintops, mountain bases, interfluves, base slopes
Downslope shape: Convex, linear
Across-slope shape: Convex
Aspect (representative): West
Aspect (range): Southeast to northeast (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 5 to 30 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 14.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Oi—0 to 2 inches; slightly decomposed plant material
A—2 to 15 inches; medial silt loam
Bw1—15 to 28 inches; silty clay loam
Bw2—28 to 43 inches; silty clay loam
Bw3—43 to 54 inches; silty clay loam
Bw4—54 to 59 inches; paragravelly silty clay loam
Cr—59 to 69 inches; weathered bedrock

Dissimilar Minor Components

Ecola soils
Percentage of map unit: 9 percent
Landform: Hillslopes, mountain slopes

Ascar soils
Percentage of map unit: 2 percent
Landform: Mountain slopes

Munsoncreek soils
Percentage of map unit: 2 percent
Landform: Hillslopes, mountain slopes

Necanicum soils
Percentage of map unit: 2 percent
Landform: Mountain slopes

31E—Tolovana-Templeton medial silt loams, 30 to 60 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 50 to 1,800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Map Unit Composition

Tolovana and similar soils: 50 percent
Templeton and similar soils: 25 percent
Dissimilar minor components: 25 percent

Characteristics of Tolovana

Setting
Landform: Mountain slopes, hillslopes
Geomorphic position (two-dimensional): Footslopes, backslopes
Geomorphic position (three-dimensional): Center third of mountain flanks, lower third of mountain flanks, head slopes, side slopes
Downslope shape: Convex, linear
Across-slope shape: Convex
Aspect (range): All aspects

Properties and qualities
Parent material: Colluvium and residuum derived from tuffaceous sedimentary rock
Slope range: 30 to 60 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 15.4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 6 inches; medial silt loam
A2—6 to 9 inches; medial silt loam
A3—9 to 20 inches; medial silt loam
2Bw1—20 to 27 inches; silty clay loam
2Bw2—27 to 38 inches; silty clay loam
2Bw3—38 to 48 inches; paragravelly clay loam
2BC—48 to 60 inches; very paragravelly clay loam

Characteristics of Templeton

Setting
Landform: Mountain slopes, hillslopes
Geomorphic position (two-dimensional): Backslopes, footslopes

Geomorphic position (three-dimensional): Upper third of mountain flanks, lower third of mountain flanks, side slopes, head slopes
Downslope shape: Convex, linear
Across-slope shape: Convex
Aspect (range): All aspects

Properties and qualities
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 30 to 60 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 14.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 2 inches; slightly decomposed plant material
A—2 to 15 inches; medial silt loam
Bw1—15 to 28 inches; silty clay loam
Bw2—28 to 43 inches; silty clay loam
Bw3—43 to 54 inches; silty clay loam
Bw4—54 to 59 inches; paragravelly silty clay loam
Cr—59 to 69 inches; weathered bedrock

Dissimilar Minor Components

Ascar soils
Percentage of map unit: 10 percent
Landform: Mountain slopes

Ecola soils
Percentage of map unit: 10 percent
Landform: Hillslopes, mountain slopes

Necanicum soils
Percentage of map unit: 3 percent
Landform: Mountain slopes

Munsoncreek soils
Percentage of map unit: 2 percent
Landform: Hillslopes, mountain slopes

32D—Munsoncreek-Flowerpot complex, 5 to 30 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 50 to 1,800 feet

Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Map Unit Composition

Munsoncreek and similar soils: 65 percent
Flowerpot and similar soils: 20 percent
Dissimilar minor components: 15 percent

Characteristics of Munsoncreek

Setting
Landform: Hillslopes, mountain slopes
Geomorphic position (two-dimensional): Summits, footslopes
Geomorphic position (three-dimensional): Mountaintops, mountain bases, interfluves, base slopes
Downslope shape: Linear, convex
Across-slope shape: Linear, convex
Aspect (representative): West
Aspect (range): Southeast to north (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 5 to 30 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 11.4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A—1 to 10 inches; medial silt loam
AB—10 to 18 inches; silty clay loam
Bw1—18 to 28 inches; silty clay loam
Bw2—28 to 41 inches; silty clay loam
Bw3—41 to 58 inches; extremely paragravelly silty clay loam
Cr—58 to 68 inches; weathered bedrock

Characteristics of Flowerpot

Setting
Landform: Hillslopes, mountain slopes
Geomorphic position (two-dimensional): Toeslopes, summits
Geomorphic position (three-dimensional): Mountaintops, mountain bases, base slopes, interfluves
Downslope shape: Concave
Across-slope shape: Linear, concave
Aspect (representative): West
Aspect (range): Southeast to north (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 5 to 30 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately low
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): About 14 to 22 inches (see Water Features table)
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 13.1 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 8 inches; medial silty clay loam
A2—8 to 14 inches; silty clay loam
AB—14 to 22 inches; silty clay loam
Bw—22 to 30 inches; silty clay loam
Bg—30 to 52 inches; silty clay loam
BC—52 to 60 inches; silty clay loam

Dissimilar Minor Components

Ascar soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Reedsport soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Templeton soils
Percentage of map unit: 5 percent
Landform: Hillslopes, mountain slopes

32E—Munsoncreek-Templeton medial silt loams, 30 to 60 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 50 to 1,800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Map Unit Composition

Munsoncreek and similar soils: 65 percent
Templeton and similar soils: 20 percent
Dissimilar minor components: 15 percent

Characteristics of Munsoncreek

Setting
Landform: Mountain slopes, hillslopes
Geomorphic position (two-dimensional): Footslopes, backslopes
Geomorphic position (three-dimensional): Center third of mountain flanks, lower third of mountain flanks, head slopes, side slopes
Downslope shape: Concave, linear
Across-slope shape: Concave, linear
Aspect (range): All aspects

Properties and qualities
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 30 to 60 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 11.4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A—1 to 10 inches; medial silt loam
AB—10 to 18 inches; silty clay loam
Bw1—18 to 28 inches; silty clay loam
Bw2—28 to 41 inches; silty clay loam
Bw3—41 to 58 inches; extremely paragravelly silty clay loam
Cr—58 to 68 inches; weathered bedrock

Characteristics of Templeton

Setting
Landform: Mountain slopes, hillslopes
Geomorphic position (two-dimensional): Backslopes, footslopes
Geomorphic position (three-dimensional): Upper third of mountain flanks, lower third of mountain flanks, side slopes, head slopes
Downslope shape: Convex, linear
Across-slope shape: Convex
Aspect (range): All aspects

Properties and qualities
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 30 to 60 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 14.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Oi—0 to 2 inches; slightly decomposed plant material
A—2 to 15 inches; medial silt loam
Bw1—15 to 28 inches; silty clay loam
Bw2—28 to 43 inches; silty clay loam
Bw3—43 to 54 inches; silty clay loam
Bw4—54 to 59 inches; paragravelly silty clay loam
Cr—59 to 69 inches; weathered bedrock

Dissimilar Minor Components

Reedsport soils
Percentage of map unit: 10 percent
Landform: Mountain slopes

Flowerpot soils
Percentage of map unit: 5 percent
Landform: Hillslopes, mountain slopes

33D—Tolovana medial silt loam, 5 to 30 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 50 to 1,800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Map Unit Composition

Tolovana and similar soils: 85 percent
Dissimilar minor components: 15 percent

Characteristics of Tolovana

Setting
Landform: Hillslopes, mountain slopes
Geomorphic position (two-dimensional): Summits, footslopes, toeslopes
Geomorphic position (three-dimensional): Mountaintops, mountain bases, interfluves, base slopes
Downslope shape: Linear, concave, convex
Across-slope shape: Linear, concave, convex
Aspect (representative): West
Aspect (range): Southeast to north (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from tuffaceous sedimentary rock
Slope range: 5 to 30 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None

Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 15.4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 6 inches; medial silt loam
A2—6 to 9 inches; medial silt loam
A3—9 to 20 inches; medial silt loam
2Bw1—20 to 27 inches; silty clay loam
2Bw2—27 to 38 inches; silty clay loam
2Bw3—38 to 48 inches; paragravelly clay loam
2BC—48 to 60 inches; very paragravelly clay loam

Dissimilar Minor Components

Ascar soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Fendall soils
Percentage of map unit: 2 percent
Landform: Hillslopes

Lebam soils
Percentage of map unit: 2 percent
Landform: Mountain slopes

Necanicum soils
Percentage of map unit: 2 percent
Landform: Mountain slopes

Templeton soils
Percentage of map unit: 2 percent
Landform: Hillslopes

Winema soils
Percentage of map unit: 2 percent
Landform: Hillslopes

37D—Templeton-Skipanon complex, 5 to 30 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 50 to 1,500 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Map Unit Composition

Templeton and similar soils: 45 percent
Skipanon and similar soils: 30 percent
Dissimilar minor components: 25 percent

Characteristics of Templeton

Setting

Landform: Hillslopes, landslide deposits on mountain slopes
Geomorphic position (two-dimensional): Summits, footslopes
Geomorphic position (three-dimensional): Mountaintops, mountain bases, interfluves, base slopes
Downslope shape: Linear, convex
Across-slope shape: Linear, convex
Aspect (representative): Northeast
Aspect (range): Southwest to south (clockwise)

Properties and qualities

Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 5 to 30 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 14.9 inches)

Interpretive groups

Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile

Oi—0 to 2 inches; slightly decomposed plant material
A—2 to 15 inches; medial silt loam
Bw1—15 to 28 inches; silty clay loam
Bw2—28 to 43 inches; silty clay loam
Bw3—43 to 54 inches; silty clay loam
Bw4—54 to 59 inches; paragravelly silty clay loam
Cr—59 to 69 inches; weathered bedrock

Characteristics of Skipanon

Setting

Landform: Hillslopes, landslide deposits on mountain slopes
Geomorphic position (two-dimensional): Summits, toeslopes
Geomorphic position (three-dimensional): Mountaintops, mountain bases, base slopes, interfluves
Downslope shape: Concave, linear
Across-slope shape: Concave, convex
Aspect (representative): Northeast
Aspect (range): Southwest to south (clockwise)

Properties and qualities

Parent material: Mass movement deposits derived from a mixture of igneous and sedimentary rock over sedimentary rock
Slope range: 5 to 30 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None

Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 10.8 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Oi—0 to 2 inches; slightly decomposed plant material
A1—2 to 7 inches; gravelly medial silt loam
A2—7 to 15 inches; gravelly silt loam
Bw1—15 to 29 inches; gravelly clay loam
Bw2—29 to 44 inches; gravelly clay loam
C—44 to 62 inches; paragravelly clay loam

Dissimilar Minor Components

Munsoncreek soils
Percentage of map unit: 10 percent
Landform: Landslides on mountain slopes, hillslopes

Ascar soils
Percentage of map unit: 5 percent
Landform: Landslides on mountain slopes, hillslopes

Necanicum soils
Percentage of map unit: 5 percent
Landform: Landslides on mountain slopes, hillslopes

Reedsport soils
Percentage of map unit: 5 percent
Landform: Landslides on mountain slopes, hillslopes

37E—Templeton-Skipanon complex, 30 to 60 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 50 to 1,500 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Map Unit Composition

Templeton and similar soils: 55 percent
Skipanon and similar soils: 30 percent
Dissimilar minor components: 15 percent

Characteristics of Templeton

Setting
Landform: Landslide deposits on mountain slopes, hillslopes
Geomorphic position (two-dimensional): Backslopes, footslopes
Geomorphic position (three-dimensional): Upper third of mountain flanks, side slopes, head slopes
Downslope shape: Linear, convex

Across-slope shape: Linear, convex
Aspect (representative): Northeast
Aspect (range): North to east (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 30 to 60 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 14.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 2 inches; slightly decomposed plant material
A—2 to 15 inches; medial silt loam
Bw1—15 to 28 inches; silty clay loam
Bw2—28 to 43 inches; silty clay loam
Bw3—43 to 54 inches; silty clay loam
Bw4—54 to 59 inches; paragravelly silty clay loam
Cr—59 to 69 inches; weathered bedrock

Characteristics of Skipanon

Setting
Landform: Landslide deposits on mountain slopes, hillslopes
Geomorphic position (two-dimensional): Footslopes, backslopes
Geomorphic position (three-dimensional): Center third of mountain flanks, lower third of mountain flanks, head slopes, side slopes
Downslope shape: Concave, linear
Across-slope shape: Concave, linear
Aspect (representative): Northeast
Aspect (range): North to east (clockwise)

Properties and qualities
Parent material: Mass movement deposits derived from a mixture of igneous and sedimentary rock over sedimentary rock
Slope range: 30 to 60 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 10.8 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 2 inches; slightly decomposed plant material
A1—2 to 7 inches; gravelly medial silt loam
A2—7 to 15 inches; gravelly silt loam
Bw1—15 to 29 inches; gravelly clay loam
Bw2—29 to 44 inches; gravelly clay loam
C—44 to 62 inches; paragravelly clay loam

Dissimilar Minor Components

Reedsport soils
Percentage of map unit: 10 percent
Landform: Landslides on mountain slopes, hillslopes

Munsoncreek soils
Percentage of map unit: 3 percent
Landform: Landslides on mountain slopes, hillslopes

Ascar soils
Percentage of map unit: 2 percent
Landform: Landslides on mountain slopes, hillslopes

38E—Templeton-Necanicum complex, 30 to 60 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 50 to 1,800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Map Unit Composition

Templeton and similar soils: 50 percent
Necanicum and similar soils: 35 percent
Dissimilar minor components: 15 percent

Characteristics of Templeton

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, footslopes
Geomorphic position (three-dimensional): Upper third of mountain flanks, lower third of mountain flanks
Downslope shape: Concave, linear
Across-slope shape: Concave, linear
Aspect (representative): Southwest
Aspect (range): Northeast to north (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 30 to 60 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None

Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 14.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 2 inches; slightly decomposed plant material
A—2 to 15 inches; medial silt loam
Bw1—15 to 28 inches; silty clay loam
Bw2—28 to 43 inches; silty clay loam
Bw3—43 to 54 inches; silty clay loam
Bw4—54 to 59 inches; paragravelly silty clay loam
Cr—59 to 69 inches; weathered bedrock

Characteristics of Necanicum

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Footslopes, backslopes
Geomorphic position (three-dimensional): Center third of mountain flanks, lower third of mountain flanks
Downslope shape: Convex, linear
Across-slope shape: Convex
Aspect (representative): Southwest
Aspect (range): Northeast to north (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock and tuff
Slope range: 30 to 60 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Moderate (about 8.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 10 inches; very gravelly medial loam
A2—10 to 18 inches; very gravelly medial loam
Bw1—18 to 27 inches; very gravelly medial loam
Bw2—27 to 49 inches; extremely cobbly medial loam
Bw3—49 to 71 inches; extremely cobbly medial loam

Dissimilar Minor Components

Skipanon soils
Percentage of map unit: 10 percent
Landform: Landslides on mountain slopes

Ecola soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

43F—Klistan-Harslow-Hemcross complex, 60 to 90 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 200 to 2,200 feet
Mean annual precipitation: 80 to 120 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 210 days

Map Unit Composition

Klistan and similar soils: 35 percent
Harslow and similar soils: 30 percent
Hemcross and similar soils: 25 percent
Dissimilar minor components: 10 percent

Characteristics of Klistan

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, footslopes
Geomorphic position (three-dimensional): Upper third of mountain flanks, lower third of mountain flanks
Downslope shape: Linear, concave
Across-slope shape: Linear, concave, convex
Aspect (range): All aspects

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 60 to 90 percent
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 5 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7e
Plant association group: Western hemlock/Oregon grape-salal (1906)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 7 inches; very gravelly medial loam
A2—7 to 14 inches; very gravelly medial loam
Bw1—14 to 26 inches; very gravelly medial loam

Bw2—26 to 36 inches; extremely gravelly medial loam
Bw3—36 to 44 inches; extremely gravelly medial loam
R—44 to 48 inches; unweathered bedrock

Characteristics of Harslow

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, shoulders
Geomorphic position (three-dimensional): Center third of mountain flanks
Downslope shape: Convex
Across-slope shape: Convex
Aspect (range): All aspects

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 60 to 90 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 3.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7s
Plant association group: Western hemlock/Oregon grape-salal (1906)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 7 inches; extremely gravelly medial loam
A2—7 to 13 inches; extremely gravelly medial loam
Bw—13 to 22 inches; extremely gravelly medial loam
BC—22 to 37 inches; extremely gravelly medial loam
R—37 to 41 inches; unweathered bedrock

Characteristics of Hemcross

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Footslopes
Geomorphic position (three-dimensional): Lower third of mountain flanks
Downslope shape: Concave
Across-slope shape: Concave, convex
Aspect (range): All aspects

Properties and qualities
Parent material: Colluvium derived from igneous rock and tuff
Slope range: 60 to 90 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None

Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 20.6 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7e
Plant association group: Western hemlock/Oregon grape-salal (1906)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 9 inches; medial loam
A2—9 to 20 inches; medial loam
Bw1—20 to 49 inches; medial loam
Bw2—49 to 62 inches; medial loam

Dissimilar Minor Components

Kilchis soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Rock outcrop
Percentage of map unit: 5 percent
Landform: Mountain slopes

44E—Klistan-Harslow-Rock outcrop complex, 30 to 60 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 200 to 2,200 feet
Mean annual precipitation: 80 to 120 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 210 days

Map Unit Composition

Klistan and similar soils: 35 percent
Harslow and similar soils: 30 percent
Rock outcrop: 20 percent
Dissimilar minor components: 15 percent

Characteristics of Klistan

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, footslopes
Geomorphic position (three-dimensional): Upper third of mountain flanks, lower third of mountain flanks
Downslope shape: Concave
Across-slope shape: Concave, linear
Aspect (representative): Southwest
Aspect (range): Southeast to west (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 30 to 60 percent
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 5 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/Oregon grape-salal (1906)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 7 inches; very gravelly medial loam
A2—7 to 14 inches; very gravelly medial loam
Bw1—14 to 26 inches; very gravelly medial loam
Bw2—26 to 36 inches; extremely gravelly medial loam
Bw3—36 to 44 inches; extremely gravelly medial loam
R—44 to 48 inches; unweathered bedrock

Characteristics of Harslow

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, shoulders
Geomorphic position (three-dimensional): Center third of mountain flanks
Downslope shape: Convex
Across-slope shape: Convex
Aspect (representative): Southwest
Aspect (range): Southeast to west (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 30 to 60 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 3.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6s
Plant association group: Western hemlock/Oregon grape-salal (1906)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 7 inches; extremely gravelly medial loam

A2—7 to 13 inches; extremely gravelly medial loam
Bw—13 to 22 inches; extremely gravelly medial loam
BC—22 to 37 inches; extremely gravelly medial loam
R—37 to 41 inches; unweathered bedrock

Characteristics of Rock Outcrop

Landform: Mountain slopes
Geomorphic position (two-dimensional): Shoulders
Geomorphic position (three-dimensional): Free faces
Slope range: 30 to 60 percent
Land capability subclass (nonirrigated): 8
Typical profile: R—0 to 60 inches; unweathered bedrock

Dissimilar Minor Components

Hemcross soils
Percentage of map unit: 10 percent
Landform: Mountain slopes

Kilchis soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

44F—Harslow-Klistan-Rock outcrop complex, 60 to 90 percent slopes

Map Unit Setting

General landscape: Coast Range (fig. 27)
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 200 to 2,200 feet
Mean annual precipitation: 80 to 120 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 210 days

Map Unit Composition

Harslow and similar soils: 35 percent
Klistan and similar soils: 30 percent
Rock outcrop: 20 percent
Dissimilar minor components: 15 percent

Characteristics of Harslow

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, shoulders
Geomorphic position (three-dimensional): Upper third of mountain flanks, center third of mountain flanks
Downslope shape: Convex
Across-slope shape: Convex
Aspect (representative): South
Aspect (range): Northeast to northwest (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 60 to 90 percent

Figure 27.—Area of Harslow-Klistan-Rock outcrop complex, 60 to 90 percent slopes.

Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 3.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7s
Plant association group: Western hemlock/Oregon grape-salal (1906)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 7 inches; extremely gravelly medial loam
A2—7 to 13 inches; extremely gravelly medial loam
Bw—13 to 22 inches; extremely gravelly medial loam
BC—22 to 37 inches; extremely gravelly medial loam
R—37 to 41 inches; unweathered bedrock

Characteristics of Klistan

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, footslopes

Geomorphic position (three-dimensional): Center third of mountain flanks, lower third of mountain flanks
Downslope shape: Concave
Across-slope shape: Concave
Aspect (representative): South
Aspect (range): Northeast to northwest (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 60 to 90 percent
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 5 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7e
Plant association group: Western hemlock/Oregon grape-salal (1906)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 7 inches; very gravelly medial loam
A2—7 to 14 inches; very gravelly medial loam
Bw1—14 to 26 inches; very gravelly medial loam
Bw2—26 to 36 inches; extremely gravelly medial loam
Bw3—36 to 44 inches; extremely gravelly medial loam
R—44 to 48 inches; unweathered bedrock

Characteristics of Rock Outcrop

Landform: Mountain slopes
Geomorphic position (two-dimensional): Shoulders
Geomorphic position (three-dimensional): Free faces
Slope range: 60 to 90 percent
Land capability subclass (nonirrigated): 8
Typical profile: R—0 to 60 inches; unweathered bedrock

Dissimilar Minor Components

Kilchis soils
Percentage of map unit: 10 percent
Landform: Mountain slopes

Hemcross soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

45B—Hebo silty clay loam, 0 to 5 percent slopes

Map Unit Setting

General landscape: Coastal river valleys
Major land resource area (MLRA): 4A—Sitka Spruce Belt

Elevation: 20 to 300 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 300 days

Map Unit Composition

Hebo and similar soils: 80 percent
Dissimilar minor components: 20 percent

Characteristics of Hebo

Setting
Landform: Depressions of stream terraces, drainageways of fluviomarine terraces
Geomorphic position (three-dimensional): Treads, risers
Downslope shape: Linear, concave
Across-slope shape: Linear

Properties and qualities
Parent material: Mixed alluvium and/or fluviomarine deposits derived from sedimentary rock
Slope range: 0 to 5 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Poorly drained
Capacity of the most limiting soil layer to transmit water (Ksat): Low
Flooding frequency: None
Ponding frequency: Frequent (see Water Features table)
Seasonal high water table (minimum depth): At the soil surface to a depth of 4 inches (see Water Features table)
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 10.6 inches)

Interpretive groups
Land capability subclass (nonirrigated): 4w
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 4 inches; silty clay loam
BA—4 to 10 inches; silty clay
Bg1—10 to 18 inches; clay
Bg2—18 to 26 inches; clay
BCg—26 to 35 inches; silty clay
2Cg—35 to 60 inches; clay loam

Dissimilar Minor Components

Chitwood soils
Percentage of map unit: 10 percent
Landform: Fluviomarine terraces, coastal stream terraces

Aquepts
Percentage of map unit: 5 percent
Landform: Depressions and drainageways of coastal stream and fluviomarine terraces

Croquib soils
Percentage of map unit: 5 percent
Landform: Coastal stream terraces

48D—Hemcross-Klistan complex, 5 to 30 percent slopes

Map Unit Setting

General landscape: Coast Range (fig. 28)
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 200 to 2,200 feet
Mean annual precipitation: 80 to 120 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 210 days

Map Unit Composition

Hemcross and similar soils: 60 percent
Klistan and similar soils: 25 percent
Dissimilar minor components: 15 percent

Characteristics of Hemcross

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Summits, toeslopes, footslopes
Geomorphic position (three-dimensional): Mountaintops, mountain bases
Downslope shape: Concave, linear
Across-slope shape: Concave, linear
Aspect (range): All aspects

Figure 28.—Area of Hemcross-Klistan complex, 5 to 30 percent slopes, in foreground and Hemcross-Klistan complex, 30 to 60 percent slopes, in steeper areas in background.

Properties and qualities
Parent material: Colluvium and residuum derived from igneous rock and tuff
Slope range: 5 to 30 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 20.6 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/oxalis-swordfern-moist (1907)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 9 inches; medial loam
A2—9 to 20 inches; medial loam
Bw1—20 to 49 inches; medial loam
Bw2—49 to 62 inches; medial loam

Characteristics of Klistan

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Summits, footslopes, toeslopes
Geomorphic position (three-dimensional): Mountaintops, mountain bases
Downslope shape: Linear, convex
Across-slope shape: Linear, convex
Aspect (range): All aspects

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 5 to 30 percent
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 5 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/oxalis-swordfern-moist (1907)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 7 inches; very gravelly medial loam
A2—7 to 14 inches; very gravelly medial loam
Bw1—14 to 26 inches; very gravelly medial loam
Bw2—26 to 36 inches; extremely gravelly medial loam
Bw3—36 to 44 inches; extremely gravelly medial loam
R—44 to 48 inches; unweathered bedrock

Dissimilar Minor Components

Formader soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Ginsberg soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Harslow soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

48E—Hemcross-Klistan complex, 30 to 60 percent slopes

Map Unit Setting

General landscape: Coast Range (fig. 28)
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 200 to 2,200 feet
Mean annual precipitation: 80 to 120 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 210 days

Map Unit Composition

Hemcross and similar soils: 50 percent
Klistan and similar soils: 35 percent
Dissimilar minor components: 15 percent

Characteristics of Hemcross

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Footslopes, backslopes
Geomorphic position (three-dimensional): Center third of mountain flanks, lower third of mountain flanks
Downslope shape: Concave, linear
Across-slope shape: Concave, linear
Aspect (representative): West
Aspect (range): Southeast to northeast (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from igneous rock and tuff
Slope range: 30 to 60 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 20.6 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/Oregon grape-salal (1906)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 9 inches; medial loam
A2—9 to 20 inches; medial loam
Bw1—20 to 49 inches; medial loam
Bw2—49 to 62 inches; medial loam

Characteristics of Klistan

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, footslopes
Geomorphic position (three-dimensional): Upper third of mountain flanks, lower third of mountain flanks
Downslope shape: Convex, linear
Across-slope shape: Convex
Aspect (representative): West
Aspect (range): Southeast to northeast (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 30 to 60 percent
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 5 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/Oregon grape-salal (1906)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 7 inches; very gravelly medial loam
A2—7 to 14 inches; very gravelly medial loam
Bw1—14 to 26 inches; very gravelly medial loam
Bw2—26 to 36 inches; extremely gravelly medial loam
Bw3—36 to 44 inches; extremely gravelly medial loam
R—44 to 48 inches; unweathered bedrock

Dissimilar Minor Components

Formader soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Ginsberg soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Harslow soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

50B—Walluski medial silt loam, 0 to 7 percent slopes

Map Unit Setting

General landscape: Coastal river valleys
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 20 to 300 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 300 days

Map Unit Composition

Walluski and similar soils: 80 percent
Dissimilar minor components: 20 percent

Characteristics of Walluski

Setting
Landform: Fluviomarine terraces, stream terraces
Geomorphic position (three-dimensional): Risers, treads
Downslope shape: Linear
Across-slope shape: Linear

Properties and qualities
Parent material: Mixed alluvium and/or fluviomarine deposits derived from sedimentary rock
Slope range: 0 to 7 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Moderately well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately low
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): About 27 to 36 inches (see Water Features table)
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 14 inches)

Interpretive groups
Land capability subclass (nonirrigated): 2e
Land capability subclass (irrigated): 3e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Oi—0 to 2 inches; slightly decomposed plant material
A—2 to 13 inches; medial silt loam
Bw1—13 to 27 inches; silty clay loam
Bw2—27 to 36 inches; silty clay loam
2C—36 to 62 inches; silty clay loam

Dissimilar Minor Components

Chitwood soils
Percentage of map unit: 5 percent
Landform: Fluviomarine terraces, coastal stream terraces

Hebo soils
Percentage of map unit: 5 percent
Landform: Depressions of coastal stream and fluviomarine terraces

Knappa soils
Percentage of map unit: 5 percent
Landform: Fluviomarine terraces, coastal stream terraces

Mues soils
Percentage of map unit: 5 percent
Landform: Coastal stream terraces

51B—Walluski-Chitwood medial silt loams, 0 to 7 percent slopes

Map Unit Setting

General landscape: Coastal river valleys
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 20 to 300 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 300 days

Map Unit Composition

Walluski and similar soils: 45 percent
Chitwood and similar soils: 40 percent
Dissimilar minor components: 15 percent

Characteristics of Walluski

Setting
Landform: Fluviomarine terraces, stream terraces
Geomorphic position (three-dimensional): Risers, treads
Downslope shape: Linear
Across-slope shape: Linear

Properties and qualities
Parent material: Mixed alluvium and/or fluviomarine deposits derived from sedimentary rock
Slope range: 0 to 7 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Moderately well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately low
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): About 27 to 36 inches (see Water Features table)
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 14 inches)

Interpretive groups
Land capability subclass (nonirrigated): 2e
Land capability subclass (irrigated): 3e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Oi—0 to 2 inches; slightly decomposed plant material
A—2 to 13 inches; medial silt loam
Bw1—13 to 27 inches; silty clay loam
Bw2—27 to 36 inches; silty clay loam
2C—36 to 62 inches; silty clay loam

Characteristics of Chitwood

Setting
Landform: Fluviomarine terraces, stream terraces
Geomorphic position (three-dimensional): Risers, treads
Downslope shape: Linear
Across-slope shape: Linear

Properties and qualities
Parent material: Mixed alluvium and/or fluviomarine deposits derived from sedimentary rock
Slope range: 0 to 7 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately low
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): About 11 to 19 inches (see Water Features table)
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 12.4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 3e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 7 inches; medial silt loam
A—7 to 11 inches; silt loam
BA—11 to 19 inches; silty clay loam
Bw—19 to 29 inches; silty clay
BC—29 to 60 inches; silty clay loam

Dissimilar Minor Components

Hebo soils
Percentage of map unit: 5 percent
Landform: Depressions of coastal stream and fluviomarine terraces

Knappa soils
Percentage of map unit: 5 percent
Landform: Fluviomarine terraces, coastal stream terraces

Mues soils
Percentage of map unit: 5 percent
Landform: Coastal stream terraces

51C—Walluski-Chitwood medial silt loams, 3 to 15 percent slopes

Map Unit Setting

General landscape: Coastal river valleys
Major land resource area (MLRA): 4A—Sitka Spruce Belt

Elevation: 20 to 300 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 300 days

Map Unit Composition

Walluski and similar soils: 45 percent
Chitwood and similar soils: 30 percent
Dissimilar minor components: 25 percent

Characteristics of Walluski

Setting
Landform: Fluviomarine terraces, stream terraces
Geomorphic position (three-dimensional): Risers, treads
Downslope shape: Linear
Across-slope shape: Linear
Aspect (representative): West
Aspect (range): Southeast to north (clockwise)

Properties and qualities
Parent material: Mixed alluvium and/or fluviomarine deposits derived from sedimentary rock
Slope range: 3 to 15 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Moderately well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately low
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): About 27 to 36 inches (see Water Features table)
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 14 inches)

Interpretive groups
Land capability subclass (nonirrigated): 3e
Land capability subclass (irrigated): 4e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Oi—0 to 2 inches; slightly decomposed plant material
A—2 to 13 inches; medial silt loam
Bw1—13 to 27 inches; silty clay loam
Bw2—27 to 36 inches; silty clay loam
2C—36 to 62 inches; silty clay loam

Characteristics of Chitwood

Setting
Landform: Fluviomarine terraces, stream terraces
Geomorphic position (three-dimensional): Risers, treads
Downslope shape: Linear
Across-slope shape: Linear
Aspect (representative): West
Aspect (range): Southeast to north (clockwise)

Properties and qualities
Parent material: Mixed alluvium and/or fluviomarine deposits derived from sedimentary rock

Slope range: 3 to 15 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately low
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): About 11 to 19 inches (see Water Features table)
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 12.4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 3e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 7 inches; medial silt loam
A—7 to 11 inches; silt loam
BA—11 to 19 inches; silty clay loam
Bw—19 to 29 inches; silty clay
BC—29 to 60 inches; silty clay loam

Dissimilar Minor Components

Hebo soils
Percentage of map unit: 10 percent
Landform: Depressions of coastal stream and fluviomarine terraces

Knappa soils
Percentage of map unit: 10 percent
Landform: Fluviomarine terraces, coastal stream terraces

Mues soils
Percentage of map unit: 5 percent
Landform: Coastal stream terraces

54B—Knappa medial silt loam, 0 to 7 percent slopes

Map Unit Setting

General landscape: Coastal river valleys
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 20 to 550 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Map Unit Composition

Knappa and similar soils: 85 percent
Dissimilar minor components: 15 percent

Characteristics of Knappa

Setting
Landform: Fluviomarine terraces, stream terraces
Geomorphic position (three-dimensional): Risers, treads
Downslope shape: Linear
Across-slope shape: Linear

Properties and qualities
Parent material: Mixed alluvium and/or fluviomarine deposits derived from sedimentary rock
Slope range: 0 to 7 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 13.8 inches)

Interpretive groups
Land capability subclass (nonirrigated): 2e
Land capability subclass (irrigated): 3e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 9 inches; medial silt loam
A—9 to 20 inches; silt loam
Bw1—20 to 25 inches; silty clay loam
Bw2—25 to 45 inches; silty clay loam
Bw3—45 to 60 inches; silty clay loam

Dissimilar Minor Components

Chitwood soils
Percentage of map unit: 5 percent
Landform: Fluviomarine terraces, coastal stream terraces

Walluski soils
Percentage of map unit: 5 percent
Landform: Fluviomarine terraces, coastal stream terraces

Hebo soils
Percentage of map unit: 3 percent
Landform: Depressions of coastal stream and fluviomarine terraces

Croquib soils
Percentage of map unit: 2 percent
Landform: Coastal stream terraces

55A—Histosols-Water complex, 0 to 1 percent slopes

Map Unit Setting

General landscape: Pacific coastal lowlands
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 0 to 10 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 180 to 300 days

Map Unit Composition

Histosols and similar soils: 55 percent
Water: 45 percent

Characteristics of Histosols

Setting
Landform: Coastal freshwater swamps, tidal marshes
Geomorphic position (three-dimensional): Rises
Downslope shape: Linear
Across-slope shape: Linear

Properties and qualities
Parent material: Organic material over alluvium or estuarine deposits; stratified organic material and alluvium; organic material throughout
Slope range: 0 to 1 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Very poorly drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: Very frequent (see Water Features table)
Ponding frequency: Frequent (see Water Features table)
Seasonal high water table (minimum depth): At the soil surface to a depth of 7 inches (see Water Features table)
Salinity (maximum): Slightly saline (about 4 millimhos per centimeter)
Available water capacity (entire profile): Very high (about 17 inches)

Interpretive groups
Land capability subclass (nonirrigated): 5w
Plant association group: Sitka spruce/wet non-forest (991)

Typical profile
Oe—0 to 7 inches; mucky peat
Oa1—7 to 13 inches; muck
Oa2—13 to 20 inches; muck
2C1—20 to 32 inches; mucky silt loam
2C2—32 to 60 inches; mucky silty clay loam

Characteristics of Water

Description of areas: Streams, lakes, ponds, and estuaries that in most years are covered with water

56B—Wolfer medial silt loam, 0 to 5 percent slopes

Map Unit Setting

General landscape: Coastal river valleys
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 20 to 250 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Map Unit Composition

Wolfer and similar soils: 80 percent
Dissimilar minor components: 20 percent

Characteristics of Wolfer

Setting
Landform: Stream terraces
Geomorphic position (three-dimensional): Treads
Downslope shape: Linear
Across-slope shape: Linear

Properties and qualities

Parent material: Silty alluvium over sandy and gravelly alluvium derived from igneous rock
Slope range: 0 to 5 percent
Depth to restrictive feature: 24 to 36 inches to strongly contrasting textural stratification
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 13.6 inches)

Interpretive groups

Land capability subclass (nonirrigated): 3s
Land capability subclass (irrigated): 3e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile

Ap—0 to 8 inches; medial silt loam
A—8 to 14 inches; medial silt loam
AB—14 to 22 inches; medial silt loam
Bw—22 to 35 inches; medial silty clay loam
2C—35 to 60 inches; extremely gravelly loam

Dissimilar Minor Components

Ginger soils

Percentage of map unit: 5 percent
Landform: Stream terraces

Hebo soils

Percentage of map unit: 5 percent
Landform: Depressions of stream terraces

Quillamook soils

Percentage of map unit: 5 percent
Landform: Stream terraces

Tillamook soils

Percentage of map unit: 5 percent
Landform: Stream terraces

56C—Wolfer medial silt loam, 3 to 15 percent slopes

Map Unit Setting

General landscape: Coastal river valleys
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 20 to 250 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Map Unit Composition

Wolfer and similar soils: 85 percent
Dissimilar minor components: 15 percent

Characteristics of Wolfer

Setting
Landform: Stream terraces
Geomorphic position (three-dimensional): Risers
Downslope shape: Linear
Across-slope shape: Linear
Aspect (representative): Southwest
Aspect (range): Southeast to northwest (clockwise)

Properties and qualities
Parent material: Silty alluvium over sandy and gravelly alluvium derived from igneous rock
Slope range: 3 to 15 percent
Depth to restrictive feature: 24 to 36 inches to strongly contrasting textural stratification
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 13.6 inches)

Interpretive groups
Land capability subclass (nonirrigated): 3s
Land capability subclass (irrigated): 4e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Ap—0 to 8 inches; medial silt loam
A—8 to 14 inches; medial silt loam
AB—14 to 22 inches; medial silt loam
Bw—22 to 35 inches; medial silty clay loam
2C—35 to 60 inches; extremely gravelly loam

Dissimilar Minor Components

Ginger soils
Percentage of map unit: 5 percent
Landform: Stream terraces

Hebo soils
Percentage of map unit: 5 percent
Landform: Depressions of stream terraces

Tillamook soils
Percentage of map unit: 5 percent
Landform: Stream terraces

57B—Condorbridge gravelly medial loam, 0 to 7 percent slopes

Map Unit Setting

General landscape: Coastal river valleys
Major land resource area (MLRA): 4A—Sitka Spruce Belt

Elevation: 20 to 200 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Map Unit Composition

Condorbridge and similar soils: 85 percent
Dissimilar minor components: 15 percent

Characteristics of Condorbridge

Setting
Landform: Alluvial fans
Geomorphic position (three-dimensional): Treads
Downslope shape: Linear, concave
Across-slope shape: Linear

Properties and qualities
Parent material: Alluvium and/or debris flow deposits derived from igneous and sedimentary rock
Slope range: 0 to 7 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 13.2 inches)

Interpretive groups
Land capability subclass (nonirrigated): 2e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 5 inches; gravelly medial loam
A—5 to 12 inches; gravelly medial loam
BA—12 to 26 inches; gravelly loam
Bw1—26 to 35 inches; paragravelly clay loam
Bw2—35 to 53 inches; paragravelly clay loam
Bw3—53 to 60 inches; paragravelly clay loam

Dissimilar Minor Components

Hebo soils
Percentage of map unit: 5 percent
Landform: Depressions of stream terraces

Typic Fulvudands, fan
Percentage of map unit: 5 percent
Landform: Alluvial fans

Walluski soils
Percentage of map unit: 5 percent
Landform: Stream terraces

57C—Condorbridge gravelly medial loam, 3 to 15 percent slopes

Map Unit Setting

General landscape: Coastal river valleys
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 20 to 200 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Map Unit Composition

Condorbridge and similar soils: 80 percent
Dissimilar minor components: 20 percent

Characteristics of Condorbridge

Setting
Landform: Alluvial fans
Geomorphic position (three-dimensional): Risers
Downslope shape: Concave, linear
Across-slope shape: Linear
Aspect (representative): West
Aspect (range): South to north (clockwise)

Properties and qualities
Parent material: Alluvium and/or debris flow deposits derived from igneous and sedimentary rock
Slope range: 3 to 15 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 13.2 inches)

Interpretive groups
Land capability subclass (nonirrigated): 3e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 5 inches; gravelly medial loam
A—5 to 12 inches; gravelly medial loam
BA—12 to 26 inches; gravelly loam
Bw1—26 to 35 inches; paragravelly clay loam
Bw2—35 to 53 inches; paragravelly clay loam
Bw3—53 to 60 inches; paragravelly clay loam

Dissimilar Minor Components

Walluski soils
Percentage of map unit: 10 percent
Landform: Stream terraces

Aquepts
Percentage of map unit: 5 percent
Landform: Depressions of alluvial fans

Typic Fulvudands, fan
Percentage of map unit: 5 percent
Landform: Alluvial fans

58C—Knappa medial silt loam, 3 to 15 percent slopes

Map Unit Setting

General landscape: Coastal river valleys
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 20 to 550 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Map Unit Composition

Knappa and similar soils: 85 percent
Dissimilar minor components: 15 percent

Characteristics of Knappa

Setting
Landform: Fluviomarine terraces, stream terraces
Geomorphic position (three-dimensional): Risers, treads
Downslope shape: Linear
Across-slope shape: Linear
Aspect (representative): West
Aspect (range): South to northwest (clockwise)

Properties and qualities
Parent material: Mixed alluvium and/or fluviomarine deposits derived from sedimentary rock
Slope range: 3 to 15 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 13.8 inches)

Interpretive groups
Land capability subclass (nonirrigated): 3e
Land capability subclass (irrigated): 4e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 9 inches; medial silt loam
A—9 to 20 inches; silt loam
Bw1—20 to 25 inches; silty clay loam

Bw2—25 to 45 inches; silty clay loam
Bw3—45 to 60 inches; silty clay loam

Dissimilar Minor Components

Chitwood soils
Percentage of map unit: 5 percent
Landform: Fluviomarine terraces, coastal stream terraces

Hebo soils
Percentage of map unit: 5 percent
Landform: Depressions of coastal stream and fluviomarine terraces

Walluski soils
Percentage of map unit: 5 percent
Landform: Fluviomarine terraces, coastal stream terraces

59B—Chitwood-Knappa medial silt loams, 0 to 7 percent slopes

Map Unit Setting

General landscape: Coastal river valleys
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 20 to 300 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 300 days

Map Unit Composition

Chitwood and similar soils: 45 percent
Knappa and similar soils: 40 percent
Dissimilar minor components: 15 percent

Characteristics of Chitwood

Setting
Landform: Fluviomarine terraces, stream terraces
Geomorphic position (three-dimensional): Risers, treads
Downslope shape: Linear
Across-slope shape: Linear

Properties and qualities
Parent material: Mixed alluvium and/or fluviomarine deposits derived from sedimentary rock
Slope range: 0 to 7 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately low
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): About 11 to 19 inches (see Water Features table)
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 12.4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 3e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 7 inches; medial silt loam
A—7 to 11 inches; silt loam
BA—11 to 19 inches; silty clay loam
Bw—19 to 29 inches; silty clay
BC—29 to 60 inches; silty clay loam

Characteristics of Knappa

Setting
Landform: Fluviomarine terraces, stream terraces
Geomorphic position (three-dimensional): Risers, treads
Downslope shape: Linear
Across-slope shape: Linear

Properties and qualities
Parent material: Mixed alluvium and/or fluviomarine deposits derived from sedimentary rock
Slope range: 0 to 7 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 13.8 inches)

Interpretive groups
Land capability subclass (nonirrigated): 2e
Land capability subclass (irrigated): 3e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 9 inches; medial silt loam
A—9 to 20 inches; silt loam
Bw1—20 to 25 inches; silty clay loam
Bw2—25 to 45 inches; silty clay loam
Bw3—45 to 60 inches; silty clay loam

Dissimilar Minor Components

Hebo soils
Percentage of map unit: 6 percent
Landform: Depressions of coastal stream and fluviomarine terraces

Walluski soils
Percentage of map unit: 5 percent
Landform: Fluviomarine terraces, coastal stream terraces

Mues soils
Percentage of map unit: 4 percent
Landform: Stream terraces

60E—Caterl-Laderly-Rock outcrop complex, 30 to 60 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 1,800 to 3,000 feet
Mean annual precipitation: 100 to 130 inches
Mean annual air temperature: 42 to 46 degrees F
Frost-free period: 60 to 100 days

Map Unit Composition

Caterl and similar soils: 35 percent
Laderly and similar soils: 30 percent
Rock outcrop: 25 percent
Dissimilar minor components: 10 percent

Characteristics of Caterl

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Footslopes, backslopes
Geomorphic position (three-dimensional): Upper third of mountain flanks, lower third of mountain flanks
Downslope shape: Concave, linear
Across-slope shape: Concave, convex
Aspect (representative): Southeast
Aspect (range): North to west (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 30 to 60 percent
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Moderate (about 7.5 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/Alaska huckleberry/oxalis (1909)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 6 inches; gravelly medial loam
A2—6 to 12 inches; very gravelly medial loam
A3—12 to 18 inches; very gravelly medial loam
Bw—18 to 35 inches; very gravelly medial loam

BC—35 to 53 inches; extremely cobbly medial loam
R—53 to 57 inches; unweathered bedrock

Characteristics of Laderly

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, shoulders
Geomorphic position (three-dimensional): Center third of mountain flanks
Downslope shape: Convex
Across-slope shape: Convex
Aspect (representative): Southeast
Aspect (range): North to west (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 30 to 60 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): High
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/Alaska huckleberry/oxalis (1909)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A—1 to 13 inches; very gravelly medial loam
Bw1—13 to 22 inches; very gravelly medial loam
Bw2—22 to 30 inches; extremely cobbly medial loam
R—30 to 34 inches; unweathered bedrock

Characteristics of Rock Outcrop

Landform: Mountain slopes
Geomorphic position (two-dimensional): Shoulders
Geomorphic position (three-dimensional): Free faces
Slope range: 30 to 60 percent
Land capability subclass (nonirrigated): 8
Typical profile: R—0 to 60 inches; unweathered bedrock

Dissimilar Minor Components

Murtip soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Romanose soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

60F—Laderly-Caterl-Rock outcrop complex, 60 to 90 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 1,800 to 3,000 feet
Mean annual precipitation: 100 to 130 inches
Mean annual air temperature: 42 to 46 degrees F
Frost-free period: 60 to 100 days

Map Unit Composition

Laderly and similar soils: 35 percent
Caterl and similar soils: 30 percent
Rock outcrop: 20 percent
Dissimilar minor components: 15 percent

Characteristics of Laderly

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, shoulders
Geomorphic position (three-dimensional): Upper third of mountain flanks
Downslope shape: Convex
Across-slope shape: Convex
Aspect (representative): North
Aspect (range): South to southeast (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 60 to 90 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): High
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7e
Plant association group: Western hemlock/Alaska huckleberry/oxalis (1909)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A—1 to 13 inches; very gravelly medial loam
Bw1—13 to 22 inches; very gravelly medial loam
Bw2—22 to 30 inches; extremely cobbly medial loam
R—30 to 34 inches; unweathered bedrock

Characteristics of Caterl

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, footslopes
Geomorphic position (three-dimensional): Center third of mountain flanks, lower third of mountain flanks

Downslope shape: Concave, convex, linear
Across-slope shape: Concave
Aspect (representative): North
Aspect (range): South to southeast (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 60 to 90 percent
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Moderate (about 7.5 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7e
Plant association group: Western hemlock/Alaska huckleberry/oxalis (1909)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 6 inches; gravelly medial loam
A2—6 to 12 inches; very gravelly medial loam
A3—12 to 18 inches; very gravelly medial loam
Bw—18 to 35 inches; very gravelly medial loam
BC—35 to 53 inches; extremely cobbly medial loam
R—53 to 57 inches; unweathered bedrock

Characteristics of Rock Outcrop

Landform: Mountain slopes
Geomorphic position (two-dimensional): Shoulders
Geomorphic position (three-dimensional): Free faces
Slope range: 60 to 90 percent
Land capability subclass (nonirrigated): 8
Typical profile: R—0 to 60 inches; unweathered bedrock

Dissimilar Minor Components

Murtip soils
Percentage of map unit: 10 percent
Landform: Mountain slopes

Romanose soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

61F—Laderly-Rock outcrop-Caterl complex, 60 to 90 percent south slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 1,800 to 3,000 feet
Mean annual precipitation: 100 to 130 inches

Mean annual air temperature: 42 to 46 degrees F
Frost-free period: 80 to 100 days

Map Unit Composition

Laderly, south slopes, and similar soils: 40 percent
Rock outcrop, south slopes: 25 percent
Caterl, south slopes, and similar soils: 20 percent
Dissimilar minor components: 15 percent

Characteristics of Laderly, South Slopes

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Shoulders, backslopes
Geomorphic position (three-dimensional): Upper third of mountain flanks
Downslope shape: Convex
Across-slope shape: Convex
Aspect (representative): South
Aspect (range): East to southwest (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 60 to 90 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): High
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7e
Plant association group: Western hemlock/Alaska huckleberry/oxalis (1909)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A—1 to 13 inches; very gravelly medial loam
Bw1—13 to 22 inches; very gravelly medial loam
Bw2—22 to 30 inches; extremely cobbly medial loam
R—30 to 34 inches; unweathered bedrock

Characteristics of Rock Outcrop, South Slopes

Landform: Mountain slopes
Geomorphic position (two-dimensional): Shoulders
Geomorphic position (three-dimensional): Free faces
Slope range: 60 to 90 percent
Land capability subclass (nonirrigated): 8
Typical profile: R—0 to 60 inches; unweathered bedrock

Characteristics of Caterl, South Slopes

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, footslopes

Geomorphic position (three-dimensional): Center third of mountain flanks, lower third of mountain flanks
Downslope shape: Concave, convex, linear
Across-slope shape: Concave
Aspect (representative): South
Aspect (range): East to southwest (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 60 to 90 percent
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Moderate (about 7.5 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7e
Plant association group: Western hemlock/Alaska huckleberry/oxalis (1909)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 6 inches; gravelly medial loam
A2—6 to 12 inches; very gravelly medial loam
A3—12 to 18 inches; very gravelly medial loam
Bw—18 to 35 inches; very gravelly medial loam
BC—35 to 53 inches; extremely cobbly medial loam
R—53 to 57 inches; unweathered bedrock

Dissimilar Minor Components

Romanose soils
Percentage of map unit: 10 percent
Landform: Mountain slopes

Murtip soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

62F—Rock outcrop-Laderly complex, 40 to 100 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 1,800 to 3,000 feet
Mean annual precipitation: 100 to 130 inches
Mean annual air temperature: 42 to 46 degrees F
Frost-free period: 60 to 100 days

Map Unit Composition

Rock outcrop: 60 percent
Laderly and similar soils: 25 percent
Dissimilar minor components: 15 percent

Characteristics of Rock Outcrop

Landform: Mountain slopes
Geomorphic position (two-dimensional): Shoulders
Geomorphic position (three-dimensional): Free faces
Slope range: 40 to 100 percent
Land capability subclass (nonirrigated): 8
Typical profile: R—0 to 60 inches; unweathered bedrock

Characteristics of Laderly

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, footslopes
Geomorphic position (three-dimensional): Mountain flanks
Downslope shape: Concave, convex, linear
Across-slope shape: Concave, linear
Aspect (representative): South
Aspect (range): East to west (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 40 to 90 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): High
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7e
Plant association group: Western hemlock/Alaska huckleberry/oxalis (1909)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A—1 to 13 inches; very gravelly medial loam
Bw1—13 to 22 inches; very gravelly medial loam
Bw2—22 to 30 inches; extremely cobbly medial loam
R—30 to 34 inches; unweathered bedrock

Dissimilar Minor Components

Caterl soils
Percentage of map unit: 10 percent
Landform: Mountain slopes

Romanose soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

70D—Murtip-Caterl-Laderly complex, 5 to 30 percent slopes

Map Unit Setting

General landscape: Coast Range (fig. 29)
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 1,800 to 3,000 feet
Mean annual precipitation: 100 to 130 inches
Mean annual air temperature: 42 to 46 degrees F
Frost-free period: 60 to 100 days

Map Unit Composition

Murtip and similar soils: 45 percent
Caterl and similar soils: 30 percent
Laderly and similar soils: 15 percent
Dissimilar minor components: 10 percent

Characteristics of Murtip

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Summits, toeslopes

Figure 29.—Area of Murtip-Caterl-Laderly complex, 5 to 30 percent slopes, in foreground and Murtip-Caterl-Laderly complex, 30 to 60 percent slopes, in background. These soils formed in igneous and volcanic parent material.

Geomorphic position (three-dimensional): Mountaintops, mountain bases
Downslope shape: Linear, concave
Across-slope shape: Linear, concave
Aspect (range): All aspects

Properties and qualities
Parent material: Colluvium and residuum derived from igneous rock and tuff
Slope range: 5 to 30 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 13.5 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/Alaska huckleberry/oxalis (1909)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 7 inches; medial loam
A2—7 to 14 inches; medial loam
Bw1—14 to 24 inches; medial loam
Bw2—24 to 43 inches; medial loam
BC—43 to 50 inches; gravelly medial loam
Cr—50 to 60 inches; weathered bedrock

Characteristics of Caterl

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Summits, footslopes
Geomorphic position (three-dimensional): Mountaintops, mountain bases
Downslope shape: Linear, convex
Across-slope shape: Convex, linear, concave
Aspect (range): All aspects

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 5 to 30 percent
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Moderate (about 7.5 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/Alaska huckleberry/oxalis (1909)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 6 inches; gravelly medial loam
A2—6 to 12 inches; very gravelly medial loam
A3—12 to 18 inches; very gravelly medial loam
Bw—18 to 35 inches; very gravelly medial loam
BC—35 to 53 inches; extremely cobbly medial loam
R—53 to 57 inches; unweathered bedrock

Characteristics of Laderly

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Summits, shoulders
Geomorphic position (three-dimensional): Mountaintops, mountain bases
Downslope shape: Convex
Across-slope shape: Convex
Aspect (range): All aspects

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 5 to 30 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): High
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/Alaska huckleberry/oxalis (1909)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A—1 to 13 inches; very gravelly medial loam
Bw1—13 to 22 inches; very gravelly medial loam
Bw2—22 to 30 inches; extremely cobbly medial loam
R—30 to 34 inches; unweathered bedrock

Dissimilar Minor Components

McMille soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Giveout soils
Percentage of map unit: 3 percent
Landform: Mountain slopes

Mutt soils
Percentage of map unit: 2 percent
Landform: Mountain slopes

70E—Murtip-Caterl-Laderly complex, 30 to 60 percent slopes

Map Unit Setting

General landscape: Coast Range (fig. 29)
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 1,800 to 3,000 feet
Mean annual precipitation: 100 to 130 inches
Mean annual air temperature: 42 to 46 degrees F
Frost-free period: 60 to 100 days

Map Unit Composition

Murtip and similar soils: 40 percent
Caterl and similar soils: 30 percent
Laderly and similar soils: 15 percent
Dissimilar minor components: 15 percent

Characteristics of Murtip

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Footslopes, backslopes
Geomorphic position (three-dimensional): Center third of mountain flanks, lower third of mountain flanks
Downslope shape: Concave, linear
Across-slope shape: Concave, linear
Aspect (range): All aspects

Properties and qualities
Parent material: Colluvium and residuum derived from igneous rock and tuff
Slope range: 30 to 60 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 13.5 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/Alaska huckleberry/oxalis (1909)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 7 inches; medial loam
A2—7 to 14 inches; medial loam
Bw1—14 to 24 inches; medial loam
Bw2—24 to 43 inches; medial loam
BC—43 to 50 inches; gravelly medial loam
Cr—50 to 60 inches; weathered bedrock

Characteristics of Caterl

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, footslopes
Geomorphic position (three-dimensional): Upper third of mountain flanks, lower third of mountain flanks
Downslope shape: Linear
Across-slope shape: Linear, convex
Aspect (range): All aspects

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 30 to 60 percent
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Moderate (about 7.5 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/Alaska huckleberry/oxalis (1909)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 6 inches; gravelly medial loam
A2—6 to 12 inches; very gravelly medial loam
A3—12 to 18 inches; very gravelly medial loam
Bw—18 to 35 inches; very gravelly medial loam
BC—35 to 53 inches; extremely cobbly medial loam
R—53 to 57 inches; unweathered bedrock

Characteristics of Laderly

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, shoulders
Geomorphic position (three-dimensional): Upper third of mountain flanks
Downslope shape: Convex
Across-slope shape: Convex
Aspect (range): All aspects

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 30 to 60 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): High
Flooding frequency: None
Ponding frequency: None

Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/Alaska huckleberry/oxalis (1909)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A—1 to 13 inches; very gravelly medial loam
Bw1—13 to 22 inches; very gravelly medial loam
Bw2—22 to 30 inches; extremely cobbly medial loam
R—30 to 34 inches; unweathered bedrock

Dissimilar Minor Components

Giveout soils
Percentage of map unit: 10 percent
Landform: Mountain slopes

McMille soils
Percentage of map unit: 3 percent
Landform: Mountain slopes

Mutt soils
Percentage of map unit: 2 percent
Landform: Mountain slopes

71D—McMille-Mutt medial silt loams, 5 to 30 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 1,800 to 3,000 feet
Mean annual precipitation: 100 to 130 inches
Mean annual air temperature: 42 to 46 degrees F
Frost-free period: 60 to 100 days

Map Unit Composition

McMille and similar soils: 50 percent
Mutt and similar soils: 35 percent
Dissimilar minor components: 15 percent

Characteristics of McMille

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Summits, footslopes
Geomorphic position (three-dimensional): Mountaintops, mountain bases
Downslope shape: Linear, concave
Across-slope shape: Linear, concave
Aspect (representative): Southeast
Aspect (range): North to southwest (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 5 to 30 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 9.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/Alaska huckleberry/oxalis (1909)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 5 inches; medial silt loam
A2—5 to 14 inches; medial silt loam
Bw1—14 to 20 inches; silt loam
Bw2—20 to 32 inches; silty clay loam
Bw3—32 to 45 inches; paragravelly silty clay loam
Cr—45 to 55 inches; weathered bedrock

Characteristics of Mutt

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Shoulders, summits
Geomorphic position (three-dimensional): Mountaintops, mountain bases
Downslope shape: Convex, linear
Across-slope shape: Convex
Aspect (representative): Southeast
Aspect (range): North to southwest (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 5 to 30 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 5.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/Alaska huckleberry/oxalis (1909)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 4 inches; medial silt loam
A2—4 to 13 inches; medial silt loam

Bw—13 to 25 inches; silty clay loam
Cr—25 to 35 inches; weathered bedrock

Dissimilar Minor Components

Murtip soils
Percentage of map unit: 10 percent
Landform: Mountain slopes

Caterl soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

72D—Caterl-Murtip complex, clayey, 5 to 30 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 1,800 to 3,000 feet
Mean annual precipitation: 100 to 130 inches
Mean annual air temperature: 42 to 46 degrees F
Frost-free period: 60 to 100 days

Map Unit Composition

Caterl, clayey, and similar soils: 60 percent
Murtip, clayey, and similar soils: 20 percent
Dissimilar minor components: 20 percent

Characteristics of Caterl, Clayey

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Summits, footslopes
Geomorphic position (three-dimensional): Mountaintops, mountain bases
Downslope shape: Linear, convex
Across-slope shape: Linear, convex
Aspect (representative): Northwest
Aspect (range): Southwest to northeast (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock over residuum derived from tuff
Slope range: 5 to 30 percent
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Moderate (about 7.5 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/Alaska huckleberry/oxalis (1909)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 6 inches; very cobbly medial loam
A2—6 to 12 inches; very cobbly medial loam
A3—12 to 18 inches; very cobbly medial loam
Bw1—18 to 41 inches; very cobbly medial clay loam
Bw2—41 to 53 inches; very cobbly clay loam
R—53 to 57 inches; unweathered bedrock

Characteristics of Murtip, Clayey

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Summits, toeslopes
Geomorphic position (three-dimensional): Mountaintops, mountain bases
Downslope shape: Linear, concave
Across-slope shape: Concave, linear
Aspect (representative): Northwest
Aspect (range): Southwest to northeast (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock over residuum derived from tuff
Slope range: 5 to 30 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 11.3 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/Alaska huckleberry/oxalis (1909)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 7 inches; cobbly medial loam
A2—7 to 14 inches; cobbly medial loam
Bw1—14 to 24 inches; cobbly medial clay loam
Bw2—24 to 43 inches; cobbly medial clay loam
Bw3—43 to 50 inches; cobbly clay loam
Cr—50 to 60 inches; weathered bedrock

Dissimilar Minor Components

Caterl soils, stony surface
Percentage of map unit: 5 percent
Landform: Mountain slopes

Caterl soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Laderly soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Murtip soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

73A—Nehalem silt loam, 0 to 3 percent slopes, frequently flooded

Map Unit Setting

General landscape: Coastal river valleys
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 10 to 200 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Map Unit Composition

Nehalem, frequently flooded, and similar soils: 75 percent
Dissimilar minor components: 25 percent

Characteristics of Nehalem, Frequently Flooded

Setting
Landform: Flood plains
Geomorphic position (three-dimensional): Treads
Downslope shape: Linear
Across-slope shape: Linear

Properties and qualities
Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 0 to 3 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: Frequent (see Water Features table)
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 11.6 inches)

Interpretive groups
Land capability subclass (nonirrigated): 3w
Land capability subclass (irrigated): 3w
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 9 inches; silt loam
A—9 to 16 inches; silt loam
Bw—16 to 48 inches; silt loam
BC—48 to 60 inches; silt loam

Dissimilar Minor Components

Nestucca soils
Percentage of map unit: 10 percent
Landform: Flood plains

Brenner soils
Percentage of map unit: 8 percent
Landform: Flood plains

Yachats soils
Percentage of map unit: 7 percent
Landform: Flood plains

74A—Nehalem silt loam, 0 to 3 percent slopes

Map Unit Setting

General landscape: Coastal river valleys
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 10 to 200 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Map Unit Composition

Nehalem and similar soils: 80 percent
Dissimilar minor components: 20 percent

Characteristics of Nehalem

Setting
Landform: Flood plains
Geomorphic position (three-dimensional): Treads
Downslope shape: Linear
Across-slope shape: Linear

Properties and qualities
Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 0 to 3 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: Occasional (see Water Features table)
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 11.6 inches)

Interpretive groups
Land capability subclass (nonirrigated): 2w
Land capability subclass (irrigated): 2w
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 9 inches; silt loam
A—9 to 16 inches; silt loam
Bw—16 to 48 inches; silt loam
BC—48 to 60 inches; silt loam

Dissimilar Minor Components

Logsden soils
Percentage of map unit: 5 percent
Landform: Stream terraces

Nehalem soils, frequently flooded
Percentage of map unit: 5 percent
Landform: Flood plains

Nestucca soils
Percentage of map unit: 4 percent
Landform: Flood plains

Brenner soils
Percentage of map unit: 3 percent
Landform: Depressions of flood plains

Yachats soils
Percentage of map unit: 3 percent
Landform: Flood plains

76A—Nestucca silt loam, 0 to 3 percent slopes

Map Unit Setting

General landscape: Coastal river valleys
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 10 to 200 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Map Unit Composition

Nestucca and similar soils: 90 percent
Dissimilar minor components: 10 percent

Characteristics of Nestucca

Setting
Landform: Flood plains
Geomorphic position (three-dimensional): Treads
Downslope shape: Linear
Across-slope shape: Linear

Properties and qualities
Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 0 to 3 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately low
Flooding frequency: Frequent (see Water Features table)
Ponding frequency: None
Seasonal high water table (minimum depth): About 14 to 41 inches (see Water Features table)
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 11.6 inches)

Interpretive groups
Land capability subclass (nonirrigated): 3w
Land capability subclass (irrigated): 3w
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 6 inches; silt loam
A—6 to 14 inches; silt loam
Bw—14 to 41 inches; silty clay loam
C—41 to 60 inches; silty clay

Dissimilar Minor Components

Brenner soils
Percentage of map unit: 5 percent
Landform: Depressions of flood plains

Nehalem soils, frequently flooded
Percentage of map unit: 5 percent
Landform: Flood plains

77A—Nestucca-Brenner silt loams, 0 to 3 percent slopes

Map Unit Setting

General landscape: Coastal river valleys
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 10 to 200 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Map Unit Composition

Nestucca and similar soils: 55 percent
Brenner and similar soils: 40 percent
Dissimilar minor component: 5 percent

Characteristics of Nestucca

Setting
Landform: Flood plains
Geomorphic position (three-dimensional): Treads
Downslope shape: Linear
Across-slope shape: Linear

Properties and qualities
Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 0 to 3 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately low
Flooding frequency: Frequent (see Water Features table)
Ponding frequency: None
Seasonal high water table (minimum depth): About 14 to 41 inches (see Water Features table)

Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 11.6 inches)

Interpretive groups
Land capability subclass (nonirrigated): 3w
Land capability subclass (irrigated): 3w
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 6 inches; silt loam
A—6 to 14 inches; silt loam
Bw—14 to 41 inches; silty clay loam
C—41 to 60 inches; silty clay

Characteristics of Brenner

Setting
Landform: Flood plains
Geomorphic position (three-dimensional): Treads
Downslope shape: Concave
Across-slope shape: Linear

Properties and qualities
Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 0 to 1 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Poorly drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately low
Flooding frequency: Frequent (see Water Features table)
Ponding frequency: Frequent (see Water Features table)
Seasonal high water table (minimum depth): At the soil surface to a depth of 7 inches (see Water Features table)
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 11.6 inches)

Interpretive groups
Land capability subclass (nonirrigated): 4w
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 7 inches; silt loam
A—7 to 12 inches; silty clay loam
Bw1—12 to 18 inches; silty clay loam
Bw2—18 to 26 inches; silty clay loam
BC—26 to 40 inches; silty clay loam
Cg1—40 to 55 inches; silty clay
Cg2—55 to 60 inches; silty clay

Dissimilar Minor Component

Nehalem soils, frequently flooded
Percentage of map unit: 5 percent
Landform: Flood plains

80B—Quillamook medial silt loam, 0 to 7 percent slopes

Map Unit Setting

General landscape: Coastal river valleys
Major land resource area (MLRA): 4A—Sitka Spruce Belt

Elevation: 20 to 200 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Map Unit Composition

Quillamook and similar soils: 80 percent
Dissimilar minor components: 20 percent

Characteristics of Quillamook

Setting
Landform: Stream terraces
Geomorphic position (three-dimensional): Treads
Downslope shape: Linear
Across-slope shape: Linear

Properties and qualities
Parent material: Silty alluvium
Slope range: 0 to 7 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 19.2 inches)

Interpretive groups
Land capability subclass (nonirrigated): 2e
Land capability subclass (irrigated): 3e
Plant association group: Sitka spruce/salmonberry-wet (903) (fig. 30)

Typical profile
Ap—0 to 8 inches; medial silt loam
A1—8 to 17 inches; medial silt loam
A2—17 to 28 inches; medial silt loam
Bw1—28 to 47 inches; medial silty clay loam
Bw2—47 to 60 inches; medial silty clay loam

Dissimilar Minor Components

Ginger soils
Percentage of map unit: 5 percent
Landform: Stream terraces

Quillamook soils, gravelly substratum
Percentage of map unit: 5 percent
Landform: Stream terraces

Tillamook soils
Percentage of map unit: 5 percent
Landform: Stream terraces

Hebo soils
Percentage of map unit: 3 percent
Landform: Depressions of stream terraces

Figure 30.—Pasture in an area of Quillamook medial silt loam, 0 to 7 percent slopes.

Wolfer soils
Percentage of map unit: 2 percent
Landform: Stream terraces

81B—Quillamook complex, 0 to 7 percent slopes

Map Unit Setting

General landscape: Coastal river valleys
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 20 to 200 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Map Unit Composition

Quillamook, gravelly substratum, and similar soils: 60 percent
Quillamook and similar soils: 25 percent
Dissimilar minor components: 15 percent

Characteristics of Quillamook, Gravelly Substratum

Setting
Landform: Stream terraces
Geomorphic position (three-dimensional): Treads
Downslope shape: Convex
Across-slope shape: Linear

Properties and qualities
Parent material: Silty alluvium over sandy and gravelly alluvium derived from igneous rock
Slope range: 0 to 7 percent
Depth to restrictive feature: 40 to 60 inches to strongly contrasting textural stratification
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 15.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 2e
Land capability subclass (irrigated): 3e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 9 inches; medial silt loam
A1—9 to 19 inches; medial silt loam
A2—19 to 27 inches; medial silt loam
Bw1—27 to 39 inches; medial silt loam
Bw2—39 to 47 inches; medial silt loam
2C—47 to 60 inches; extremely gravelly loamy coarse sand

Characteristics of Quillamook

Setting
Landform: Stream terraces
Geomorphic position (three-dimensional): Treads
Downslope shape: Linear
Across-slope shape: Linear

Properties and qualities
Parent material: Silty alluvium
Slope range: 0 to 7 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 19.2 inches)

Interpretive groups
Land capability subclass (nonirrigated): 2e
Land capability subclass (irrigated): 3e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 8 inches; medial silt loam
A1—8 to 17 inches; medial silt loam
A2—17 to 28 inches; medial silt loam

Bw1—28 to 47 inches; medial silty clay loam
Bw2—47 to 60 inches; medial silty clay loam

Dissimilar Minor Components

Tillamook soils
Percentage of map unit: 10 percent
Landform: Stream terraces

Ginger soils
Percentage of map unit: 2 percent
Landform: Stream terraces

Hebo soils
Percentage of map unit: 2 percent
Landform: Depressions of stream terraces

Wolfer soils
Percentage of map unit: 1 percent
Landform: Stream terraces

81C—Quillamook complex, 3 to 15 percent slopes

Map Unit Setting

General landscape: Coastal river valleys
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 20 to 200 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Map Unit Composition

Quillamook, gravelly substratum, and similar soils: 60 percent
Quillamook and similar soils: 25 percent
Dissimilar minor components: 15 percent

Characteristics of Quillamook, Gravelly Substratum

Setting
Landform: Stream terraces
Geomorphic position (three-dimensional): Risers
Downslope shape: Convex
Across-slope shape: Linear
Aspect (representative): Northeast
Aspect (range): Northwest to east (clockwise)

Properties and qualities
Parent material: Silty alluvium over sandy and gravelly alluvium derived from igneous rock
Slope range: 3 to 15 percent
Depth to restrictive feature: 40 to 60 inches to strongly contrasting textural stratification
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches

Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 15.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 3e
Land capability subclass (irrigated): 4e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 9 inches; medial silt loam
A1—9 to 19 inches; medial silt loam
A2—19 to 27 inches; medial silt loam
Bw1—27 to 39 inches; medial silt loam
Bw2—39 to 47 inches; medial silt loam
2C—47 to 60 inches; extremely gravelly loamy coarse sand

Characteristics of Quillamook

Setting
Landform: Stream terraces
Geomorphic position (three-dimensional): Risers
Downslope shape: Linear
Across-slope shape: Linear
Aspect (representative): Northeast
Aspect (range): Northwest to east (clockwise)

Properties and qualities
Parent material: Silty alluvium
Slope range: 3 to 15 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 19.2 inches)

Interpretive groups
Land capability subclass (nonirrigated): 3e
Land capability subclass (irrigated): 4e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 8 inches; medial silt loam
A1—8 to 17 inches; medial silt loam
A2—17 to 28 inches; medial silt loam
Bw1—28 to 47 inches; medial silty clay loam
Bw2—47 to 60 inches; medial silty clay loam

Dissimilar Minor Components

Tillamook soils
Percentage of map unit: 10 percent
Landform: Stream terraces

Wolfer soils
Percentage of map unit: 3 percent
Landform: Stream terraces

Hebo soils
Percentage of map unit: 2 percent
Landform: Depressions of stream terraces

89A—Udifluvents-Riverwash-Water complex, 0 to 3 percent slopes

Map Unit Setting

General landscape: Coastal river valleys
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 20 to 100 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Map Unit Composition

Udifluvents and similar soils: 40 percent
Riverwash: 30 percent
Water: 25 percent
Dissimilar minor component: 5 percent

Characteristics of Udifluvents

Setting
Landform: Flood plains
Geomorphic position (three-dimensional): Treads
Downslope shape: Linear
Across-slope shape: Linear

Properties and qualities
Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 0 to 3 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Somewhat excessively drained
Capacity of the most limiting soil layer to transmit water (Ksat): High
Flooding frequency: Frequent (see Water Features table)
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Moderate (about 6.4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 4w
Plant association group: Sitka spruce/wet non-forest (991)

Typical profile
A—0 to 7 inches; fine sandy loam
C1—7 to 38 inches; sandy loam
C2—38 to 60 inches; loamy fine sand

Characteristics of Riverwash

Setting
Landform: Flood plains

Properties and qualities
Slope range: 0 to 3 percent
Depth to restrictive feature: None within a depth of 60 inches

Capacity of the most limiting soil layer to transmit water (Ksat): Unspecified
Flooding frequency: Frequent (see Water Features table)
Ponding frequency: None
Seasonal high water table (minimum depth): At the soil surface to a depth of 24 inches (see Water Features table)
Salinity (maximum): Not saline

Interpretive groups
Land capability subclass (nonirrigated): 8

Typical profile
0 to 60 inches; stratified sand to gravel

Characteristics of Water

Description of areas: Streams, lakes, ponds, and estuaries that in most years are covered with water

Dissimilar Minor Component

Fluvaquents
Percentage of map unit: 5 percent
Landform: Depressions of flood plains

90A—Yachats very fine sandy loam, 0 to 3 percent slopes

Map Unit Setting

General landscape: Coastal river valleys
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 10 to 200 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Map Unit Composition

Yachats and similar soils: 85 percent
Dissimilar minor components: 15 percent

Characteristics of Yachats

Setting
Landform: Flood plains
Geomorphic position (three-dimensional): Treads
Downslope shape: Linear
Across-slope shape: Linear

Properties and qualities
Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 0 to 3 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: Frequent (see Water Features table)
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Moderate (about 8.4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 3w
Land capability subclass (irrigated): 3w
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 9 inches; very fine sandy loam
A—9 to 19 inches; loam
C1—19 to 39 inches; fine sandy loam
C2—39 to 54 inches; fine sandy loam
C3—54 to 60 inches; very fine sandy loam

Dissimilar Minor Components

Brenner soils
Percentage of map unit: 5 percent
Landform: Depressions of flood plains

Gauldy soils
Percentage of map unit: 5 percent
Landform: Flood plains

Nehalem soils, frequently flooded
Percentage of map unit: 5 percent
Landform: Flood plains

91A—Gauldy loam, 0 to 3 percent slopes

Map Unit Setting

General landscape: Coastal river valleys
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 10 to 400 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Map Unit Composition

Gauldy and similar soils: 85 percent
Dissimilar minor components: 15 percent

Characteristics of Gauldy

Setting
Landform: Flood plains
Geomorphic position (three-dimensional): Treads
Downslope shape: Linear, concave
Across-slope shape: Linear

Properties and qualities
Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 0 to 3 percent
Depth to restrictive feature: 20 to 30 inches to strongly contrasting textural stratification
Drainage class: Somewhat excessively drained
Capacity of the most limiting soil layer to transmit water (Ksat): High
Flooding frequency: Frequent (see Water Features table)
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches

Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 5.6 inches)

Interpretive groups
Land capability subclass (nonirrigated): 4w
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 10 inches; loam
Bw—10 to 26 inches; gravelly loam
2C1—26 to 38 inches; stratified extremely gravelly loamy coarse sand
2C2—38 to 55 inches; stratified loamy fine sand
2C3—55 to 60 inches; stratified extremely gravelly fine sand

Dissimilar Minor Components

Yachats soils
Percentage of map unit: 10 percent
Landform: Flood plains

Brenner soils
Percentage of map unit: 5 percent
Landform: Depressions of flood plains

92A—Yachats-Gauldy complex, 0 to 3 percent slopes

Map Unit Setting

General landscape: Coastal river valleys
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 10 to 400 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Map Unit Composition

Yachats and similar soils: 45 percent
Gauldy and similar soils: 40 percent
Dissimilar minor components: 15 percent

Characteristics of Yachats

Setting
Landform: Flood plains
Geomorphic position (three-dimensional): Treads
Downslope shape: Linear
Across-slope shape: Linear

Properties and qualities
Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 0 to 3 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: Frequent (see Water Features table)
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Moderate (about 8.4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 3w
Land capability subclass (irrigated): 3w
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 9 inches; very fine sandy loam
A—9 to 19 inches; loam
C1—19 to 39 inches; fine sandy loam
C2—39 to 54 inches; fine sandy loam
C3—54 to 60 inches; very fine sandy loam

Characteristics of Gauldy

Setting
Landform: Flood plains
Geomorphic position (three-dimensional): Treads
Downslope shape: Concave
Across-slope shape: Linear

Properties and qualities
Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 0 to 3 percent
Depth to restrictive feature: 20 to 30 inches to strongly contrasting textural stratification
Drainage class: Somewhat excessively drained
Capacity of the most limiting soil layer to transmit water (Ksat): High
Flooding frequency: Frequent (see Water Features table)
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 5.6 inches)

Interpretive groups
Land capability subclass (nonirrigated): 4w
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 10 inches; loam
Bw—10 to 26 inches; gravelly loam
2C1—26 to 38 inches; stratified extremely gravelly loamy coarse sand
2C2—38 to 55 inches; stratified loamy fine sand
2C3—55 to 60 inches; stratified extremely gravelly fine sand

Dissimilar Minor Components

Nehalem soils, frequently flooded
Percentage of map unit: 10 percent
Landform: Flood plains

Brenner soils
Percentage of map unit: 5 percent
Landform: Depressions of flood plains

93B—Gauldy complex, 0 to 5 percent slopes

Map Unit Setting

General landscape: Coastal river valleys
Major land resource area (MLRA): 4A—Sitka Spruce Belt

Elevation: 10 to 400 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Map Unit Composition

Gauldy, occasional flooding, and similar soils: 50 percent
Gauldy, rare flooding, and similar soils: 35 percent
Dissimilar minor components: 15 percent

Characteristics of Gauldy, Occasional Flooding

Setting
Landform: Flood plains
Geomorphic position (three-dimensional): Treads
Downslope shape: Concave
Across-slope shape: Linear

Properties and qualities
Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 0 to 3 percent
Depth to restrictive feature: 20 to 30 inches to strongly contrasting textural stratification
Drainage class: Somewhat excessively drained
Capacity of the most limiting soil layer to transmit water (Ksat): High
Flooding frequency: Occasional (see Water Features table)
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 5.6 inches)

Interpretive groups
Land capability subclass (nonirrigated): 4w
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 10 inches; loam
Bw—10 to 26 inches; gravelly loam
2C1—26 to 38 inches; stratified extremely gravelly loamy coarse sand
2C2—38 to 55 inches; stratified loamy fine sand
2C3—55 to 60 inches; stratified extremely gravelly fine sand

Characteristics of Gauldy, Rare Flooding

Setting
Landform: Stream terraces
Geomorphic position (three-dimensional): Treads
Downslope shape: Linear
Across-slope shape: Linear

Properties and qualities
Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 0 to 5 percent
Depth to restrictive feature: 20 to 30 inches to strongly contrasting textural stratification
Drainage class: Somewhat excessively drained
Capacity of the most limiting soil layer to transmit water (Ksat): High
Flooding frequency: Rare (see Water Features table)

Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 5.6 inches)

Interpretive groups
Land capability subclass (nonirrigated): 4s
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 10 inches; loam
Bw—10 to 26 inches; gravelly loam
2C1—26 to 38 inches; stratified extremely gravelly loamy coarse sand
2C2—38 to 55 inches; stratified loamy fine sand
2C3—55 to 60 inches; stratified extremely gravelly fine sand

Dissimilar Minor Components

Brenner soils
Percentage of map unit: 10 percent
Landform: Stream terraces

Nestucca soils
Percentage of map unit: 5 percent
Landform: Flood plains

94B—Ginger-Quillamook-Urban land complex, 0 to 7 percent slopes

Map Unit Setting

General landscape: Coastal river valleys
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 20 to 200 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Map Unit Composition

Ginger and similar soils: 35 percent
Quillamook and similar soils: 30 percent
Urban land: 30 percent
Dissimilar minor components: 5 percent

Characteristics of Ginger

Setting
Landform: Stream terraces
Geomorphic position (three-dimensional): Treads
Downslope shape: Linear
Across-slope shape: Linear

Properties and qualities
Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 0 to 7 percent
Depth to restrictive feature: 40 to 60 inches to strongly contrasting textural stratification
Drainage class: Somewhat poorly drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately low

Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): About 17 to 20 inches (see Water Features table)
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 12.7 inches)

Interpretive groups
Land capability subclass (nonirrigated): 3e
Land capability subclass (irrigated): 4e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 8 inches; medial silt loam
A—8 to 17 inches; medial silt loam
2BA—17 to 20 inches; silty clay loam
2Bg1—20 to 28 inches; silty clay
2Bg2—28 to 38 inches; silty clay
2Bg3—38 to 52 inches; silty clay
3C—52 to 60 inches; extremely gravelly sandy loam

Characteristics of Quillamook

Setting
Landform: Stream terraces
Geomorphic position (three-dimensional): Treads
Downslope shape: Convex
Across-slope shape: Linear

Properties and qualities
Parent material: Silty alluvium
Slope range: 0 to 7 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 19.2 inches)

Interpretive groups
Land capability subclass (nonirrigated): 2e
Land capability subclass (irrigated): 3e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 8 inches; medial silt loam
A1—8 to 17 inches; medial silt loam
A2—17 to 28 inches; medial silt loam
Bw1—28 to 47 inches; medial silty clay loam
Bw2—47 to 60 inches; medial silty clay loam

Characteristics of Urban Land

Properties and qualities
Slope range: 0 to 7 percent
Depth to restrictive feature: None within a depth of 60 inches

Capacity of the most limiting soil layer to transmit water (Ksat): Unspecified
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline

Interpretive groups
Land capability subclass (nonirrigated): 8

Dissimilar Minor Components

Tillamook soils
Percentage of map unit: 3 percent
Landform: Stream terraces

Hebo soils
Percentage of map unit: 2 percent
Landform: Depressions of stream terraces

95B—Urban land-Quillamook complex, 0 to 7 percent slopes

Map Unit Setting

Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 20 to 200 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Map Unit Composition

Urban land: 55 percent
Quillamook and similar soils: 30 percent
Dissimilar minor components: 15 percent

Characteristics of Urban Land

Properties and qualities
Slope range: 0 to 7 percent
Depth to restrictive feature: None within a depth of 60 inches
Capacity of the most limiting soil layer to transmit water (Ksat): Unspecified
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline

Interpretive groups
Land capability subclass (nonirrigated): 8

Characteristics of Quillamook

Setting
Landform: Stream terraces
Geomorphic position (three-dimensional): Treads
Downslope shape: Convex
Across-slope shape: Linear

Properties and qualities
Parent material: Silty alluvium
Slope range: 0 to 7 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 19.2 inches)

Interpretive groups
Land capability subclass (nonirrigated): 2e
Land capability subclass (irrigated): 3e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 8 inches; medial silt loam
A1—8 to 17 inches; medial silt loam
A2—17 to 28 inches; medial silt loam
Bw1—28 to 47 inches; medial silty clay loam
Bw2—47 to 60 inches; medial silty clay loam

Dissimilar Minor Components

Ginger soils
Percentage of map unit: 5 percent
Landform: Stream terraces

Hebo soils
Percentage of map unit: 5 percent
Landform: Depressions of stream terraces

Tillamook soils
Percentage of map unit: 5 percent
Landform: Stream terraces

96B—Ginger-Hebo complex, 0 to 5 percent slopes

Map Unit Setting

General landscape: Coastal river valleys
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 20 to 200 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 300 days

Map Unit Composition

Ginger and similar soils: 40 percent
Hebo and similar soils: 35 percent
Dissimilar minor components: 25 percent

Characteristics of Ginger

Setting
Landform: Stream terraces
Geomorphic position (three-dimensional): Treads
Downslope shape: Linear
Across-slope shape: Linear

Properties and qualities
Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 0 to 5 percent
Depth to restrictive feature: 40 to 60 inches to strongly contrasting textural stratification
Drainage class: Somewhat poorly drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately low
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): About 17 to 20 inches (see Water Features table)
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 12.7 inches)

Interpretive groups
Land capability subclass (nonirrigated): 3e
Land capability subclass (irrigated): 4e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 8 inches; medial silt loam
A—8 to 17 inches; medial silt loam
2BA—17 to 20 inches; silty clay loam
2Bg1—20 to 28 inches; silty clay
2Bg2—28 to 38 inches; silty clay
2Bg3—38 to 52 inches; silty clay
3C—52 to 60 inches; extremely gravelly sandy loam

Characteristics of Hebo

Setting
Landform: Depressions of stream terraces
Geomorphic position (three-dimensional): Treads
Downslope shape: Concave
Across-slope shape: Linear

Properties and qualities
Parent material: Mixed alluvium and/or fluviomarine deposits derived from sedimentary rock
Slope range: 0 to 3 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Poorly drained
Capacity of the most limiting soil layer to transmit water (Ksat): Low
Flooding frequency: None
Ponding frequency: Frequent (see Water Features table)
Seasonal high water table (minimum depth): At the soil surface to a depth of 4 inches (see Water Features table)
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 10.6 inches)

Interpretive groups
Land capability subclass (nonirrigated): 4e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 4 inches; silty clay loam
BA—4 to 10 inches; silty clay
Bg1—10 to 18 inches; clay
Bg2—18 to 26 inches; clay
BCg—26 to 35 inches; silty clay
2Cg—35 to 60 inches; clay loam

Dissimilar Minor Components

Quillamook soils
Percentage of map unit: 10 percent
Landform: Stream terraces

Wolfer soils
Percentage of map unit: 10 percent
Landform: Stream terraces

Tillamook soils
Percentage of map unit: 5 percent
Landform: Stream terraces

99—Beaches

Map Unit Setting

General landscape: Pacific coastal lowlands
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 0 to 10 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 300 days

Map Unit Composition

Beaches: 95 percent
Dissimilar minor component: 5 percent

Characteristics of Beaches

Setting
Landform: Beaches (fig. 31)

Properties and qualities
Parent material: Beach sand
Slope range: 0 to 3 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Excessively drained to poorly drained
Capacity of the most limiting soil layer to transmit water (Ksat): Unspecified
Flooding frequency: Very frequent (see Water Features table)
Ponding frequency: None
Seasonal high water table (minimum depth): At the soil surface to a depth of 72 inches (see Water Features table)
Salinity (maximum): Not saline

Figure 31.—Area of Beaches with Cape Lookout in background.

Interpretive groups
Land capability subclass (nonirrigated): 8

Typical profile
0 to 60 inches; stratified sand to gravel

Dissimilar Minor Component

Dune land
Percentage of map unit: 5 percent
Landform: Active dunes, foredunes, blowouts

100B—Urban land-Udorthents complex, 0 to 7 percent slopes

Map Unit Setting

Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 10 to 50 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Map Unit Composition

Urban land: 65 percent
Udorthents and similar soils: 25 percent
Dissimilar minor component: 10 percent

Characteristics of Urban Land

Properties and qualities
Slope range: 0 to 7 percent
Depth to restrictive feature: None within a depth of 60 inches
Capacity of the most limiting soil layer to transmit water (Ksat): Unspecified
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline

Interpretive groups
Land capability subclass (nonirrigated): 8

Characteristics of Udorthents

Setting
Landform: Flood plains, stream terraces
Geomorphic position (three-dimensional): Risers
Downslope shape: Linear
Across-slope shape: Linear

Properties and qualities
Parent material: Alluvium derived from igneous and sedimentary rock and/or colluvium derived from igneous rock and human-transported material
Slope range: 0 to 7 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Somewhat excessively drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 3.6 inches)

Interpretive groups
Land capability subclass (nonirrigated): 4s
Plant association group: Sitka spruce/dry non-forest (971)

Typical profile
A—0 to 2 inches; gravelly sandy loam
C—2 to 60 inches; very gravelly sandy loam

Dissimilar Minor Component

Aquepts
Percentage of map unit: 10 percent
Landform: Depressions of stream terraces

101B—Urban land-Udorthents complex, 0 to 7 percent slopes, flooded

Map Unit Setting

Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 10 to 50 feet
Mean annual precipitation: 80 to 100 inches

Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Map Unit Composition

Urban land, flooded: 65 percent
Udorthents, flooded, and similar soils: 25 percent
Dissimilar minor component: 10 percent

Characteristics of Urban Land, Flooded

Properties and qualities
Slope range: 0 to 7 percent
Depth to restrictive feature: None within a depth of 60 inches
Capacity of the most limiting soil layer to transmit water (Ksat): Unspecified
Flooding frequency: Occasional (see Water Features table)
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline

Interpretive groups
Land capability subclass (nonirrigated): 8

Characteristics of Udorthents, Flooded

Setting
Landform: Flood plains
Geomorphic position (three-dimensional): Treads
Downslope shape: Linear
Across-slope shape: Linear

Properties and qualities
Parent material: Alluvium derived from igneous and sedimentary rock and/or colluvium derived from igneous rock and human-transported material
Slope range: 0 to 3 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: Occasional (see Water Features table)
Ponding frequency: None
Seasonal high water table (minimum depth): About 14 to 41 inches (see Water Features table)
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 3.6 inches)

Interpretive groups
Land capability subclass (nonirrigated): 4w
Plant association group: Sitka spruce/wet non-forest (991)

Typical profile
A—0 to 2 inches; gravelly sandy loam
C—2 to 60 inches; very gravelly sandy loam

Dissimilar Minor Component

Aquepts
Percentage of map unit: 10 percent
Landform: Depressions of flood plains

102A—Fluvaquents-Histosols complex, 0 to 1 percent slopes, diked

Map Unit Setting

General landscape: Pacific coastal lowlands (fig. 32)
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 0 to 10 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 180 to 300 days

Map Unit Composition

Fluvaquents, diked, and similar soils: 60 percent
Histosols, diked, and similar soils: 35 percent
Dissimilar minor component: 5 percent

Characteristics of Fluvaquents, Diked

Setting
Landform: Tidal marshes
Geomorphic position (three-dimensional): Rises
Downslope shape: Linear
Across-slope shape: Linear

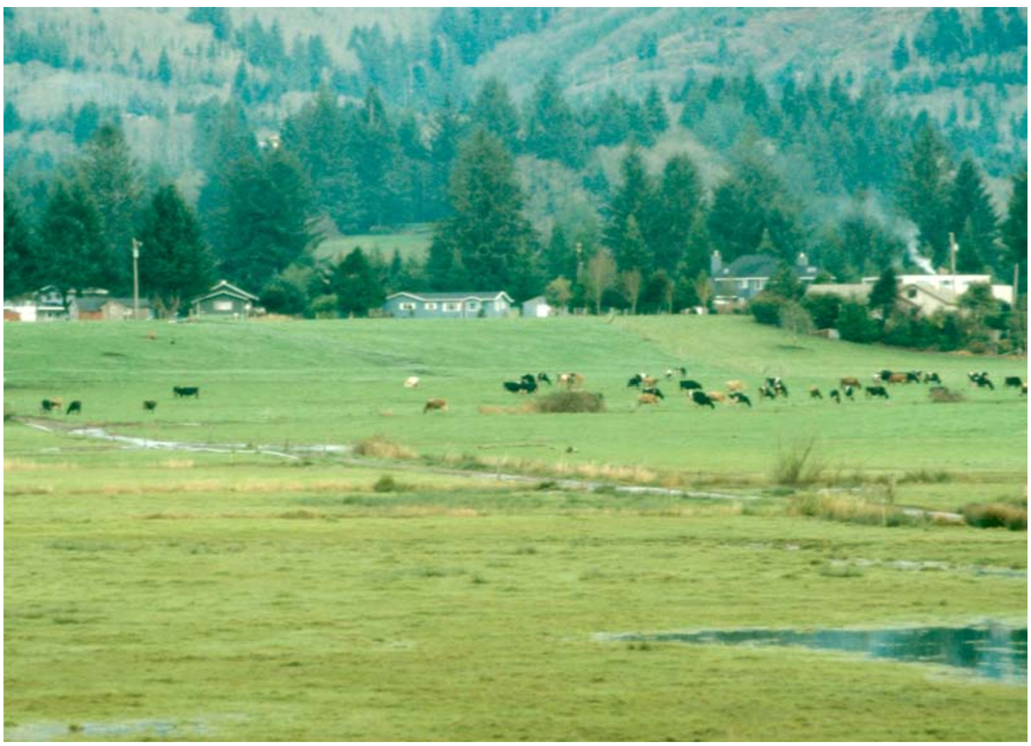

Figure 32.—Area of Fluvaquents-Histosols complex, 0 to 1 percent slopes, diked, with areas of water in foreground. Dairy cattle grazing in an area of Coquille silt loam, 0 to 1 percent slopes, diked.

Properties and qualities

Parent material: Estuarine deposits
Slope range: 0 to 1 percent
Depth to restrictive feature: 30 to 60 inches to strongly contrasting textural stratification
Drainage class: Very poorly drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: Frequent (see Water Features table)
Ponding frequency: Frequent (see Water Features table)
Seasonal high water table (minimum depth): At the soil surface to a depth of 4 inches (see Water Features table)
Salinity (maximum): Slightly saline (about 4 millimhos per centimeter)
Available water capacity (entire profile): High (about 9.1 inches)

Interpretive groups

Land capability subclass (nonirrigated): 4w
Plant association group: Sitka spruce/wet non-forest (991)

Typical profile

A1—0 to 4 inches; mucky silt loam
A2—4 to 7 inches; mucky silt loam
Cg1—7 to 22 inches; silt loam
Cg2—22 to 25 inches; sandy loam
Cg3—25 to 45 inches; loam
Cg4—45 to 60 inches; very gravelly sandy loam

Characteristics of Histosols, Diked

Setting

Landform: Tidal marshes
Geomorphic position (three-dimensional): Dips
Downslope shape: Concave
Across-slope shape: Linear

Properties and qualities

Parent material: Organic material over alluvium or estuarine deposits; stratified organic material and alluvium; organic material throughout
Slope range: 0 to 1 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Very poorly drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: Frequent (see Water Features table)
Ponding frequency: Frequent (see Water Features table)
Seasonal high water table (minimum depth): At the soil surface to a depth of 7 inches (see Water Features table)
Salinity (maximum): Slightly saline (about 4 millimhos per centimeter)
Available water capacity (entire profile): Very high (about 17 inches)

Interpretive groups

Land capability subclass (nonirrigated): 4w
Plant association group: Sitka spruce/wet non-forest (991)

Typical profile

Oe—0 to 7 inches; mucky peat
Oa1—7 to 13 inches; muck
Oa2—13 to 20 inches; muck
2C1—20 to 32 inches; mucky silt loam
2C2—32 to 60 inches; mucky silty clay loam

Dissimilar Minor Component

Coquille soils, diked
Percentage of map unit: 5 percent
Landform: Tidal marshes

103A—Coquille silt loam, 0 to 1 percent slopes, diked

Map Unit Setting

General landscape: Pacific coastal lowlands
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 10 to 20 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 180 to 300 days

Map Unit Composition

Coquille, diked, and similar soils: 85 percent
Dissimilar minor components: 15 percent

Characteristics of Coquille, Diked

Setting
Landform: Tidal marshes
Geomorphic position (three-dimensional): Talfs
Downslope shape: Linear
Across-slope shape: Linear

Properties and qualities
Parent material: Estuarine deposits
Slope range: 0 to 1 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Very poorly drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately low
Flooding frequency: Frequent (see Water Features table)
Ponding frequency: Frequent (see Water Features table)
Seasonal high water table (minimum depth): At the soil surface to a depth of 6 inches (see Water Features table)
Salinity (maximum): Very slightly saline (about 2 millimhos per centimeter)
Available water capacity (entire profile): High (about 11.7 inches)

Interpretive groups
Land capability subclass (nonirrigated): 4w
Plant association group: Sitka spruce/wet non-forest (991)

Typical profile
A—0 to 6 inches; silt loam
C1—6 to 14 inches; silt loam
C2—14 to 34 inches; silty clay loam
2Cg1—34 to 49 inches; silty clay loam
2Cg2—49 to 60 inches; silty clay loam

Dissimilar Minor Components

Histosols
Percentage of map unit: 10 percent
Landform: Tidal marshes

Brenner soils
Percentage of map unit: 5 percent
Landform: Flood plains

104A—Coquille-Brenner-Nehalem association, 0 to 3 percent slopes, protected

Map Unit Setting

General landscape: Pacific coastal lowlands
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 10 to 20 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 180 to 300 days

Map Unit Composition

Coquille, protected, and similar soils: 50 percent
Brenner, protected, and similar soils: 30 percent
Nehalem, protected, and similar soils: 15 percent
Dissimilar minor component: 5 percent

Characteristics of Coquille, Protected

Setting
Landform: Estuaries, tidal marshes
Geomorphic position (three-dimensional): Dips
Downslope shape: Linear
Across-slope shape: Linear

Properties and qualities
Parent material: Estuarine deposits
Slope range: 0 to 1 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Very poorly drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately low
Flooding frequency: Rare (see Water Features table)
Ponding frequency: Frequent (see Water Features table)
Seasonal high water table (minimum depth): At the surface to a depth of 6 inches below the surface (see Water Features table)
Salinity (maximum): Very slightly saline (about 2 millimhos per centimeter)
Available water capacity (entire profile): High (about 11.7 inches)

Interpretive groups
Land capability subclass (nonirrigated): 4w
Land capability subclass (irrigated): 4w
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
A—0 to 6 inches; silt loam
C1—6 to 14 inches; silt loam
C2—14 to 34 inches; silty clay loam
2Cg1—34 to 49 inches; silty clay loam
2Cg2—49 to 60 inches; silty clay loam

Characteristics of Brenner, Protected

Setting
Landform: Flood plains
Geomorphic position (three-dimensional): Treads
Downslope shape: Concave
Across-slope shape: Concave

Properties and qualities
Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 0 to 1 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Poorly drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately low
Flooding frequency: Rare (see Water Features table)
Ponding frequency: Frequent (see Water Features table)
Seasonal high water table (minimum depth): At the surface to a depth of 7 inches below the surface (see Water Features table)
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 11.6 inches)

Interpretive groups
Land capability subclass (nonirrigated): 3w
Land capability subclass (irrigated): 3w
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 7 inches; silt loam
A—7 to 12 inches; silty clay loam
Bw1—12 to 18 inches; silty clay loam
Bw2—18 to 26 inches; silty clay loam
BC—26 to 40 inches; silty clay loam
Cg1—40 to 55 inches; silty clay
Cg2—55 to 60 inches; silty clay

Characteristics of Nehalem, Protected

Setting
Landform: Flood plains
Geomorphic position (three-dimensional): Treads
Downslope shape: Concave
Across-slope shape: Linear

Properties and qualities
Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 0 to 3 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches

Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 11.6 inches)

Interpretive groups
Land capability subclass (nonirrigated): 2c
Land capability subclass (irrigated): 2c
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 9 inches; silt loam
A—9 to 16 inches; silt loam
Bw—16 to 48 inches; silt loam
BC—48 to 60 inches; silt loam

Dissimilar Minor Component

Nestucca soils, protected
Percentage of map unit: 5 percent
Landform: Flood plains

110F—Waldport fine sand, thin surface, 60 to 90 percent slopes

Map Unit Setting

General landscape: Pacific coastal plains
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 10 to 50 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 180 to 300 days

Map Unit Composition

Waldport, thin surface, and similar soils: 85 percent
Dissimilar minor components: 15 percent

Characteristics of Waldport, Thin Surface

Setting
Landform: Blowouts, foredunes, recently stabilized dunes on marine terraces
Geomorphic position (three-dimensional): Risers
Downslope shape: Linear, concave
Across-slope shape: Linear
Aspect (representative): South
Aspect (range): Northeast to west (clockwise)

Properties and qualities
Parent material: Eolian sand
Slope range: 60 to 90 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Excessively drained
Capacity of the most limiting soil layer to transmit water (Ksat): High
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very low (about 2.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7e
Plant association group: Sitka spruce/dry non-forest (971)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A—1 to 3 inches; fine sand
C—3 to 60 inches; fine sand

Dissimilar Minor Components

Waldport soils
Percentage of map unit: 10 percent
Landform: Stabilized dunes on marine terraces

Dune land
Percentage of map unit: 5 percent
Landform: Active dunes, foredunes, blowouts

115A—Aquepts, 0 to 1 percent slopes

Map Unit Setting

General landscape: Coastal river valleys (fig. 33)
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 20 to 800 feet

Figure 33.—Area of Aquepts, 0 to 1 percent slopes, in the coastal fogbelt.

Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Map Unit Composition

Aquepts and similar soils: 85 percent
Dissimilar minor components: 15 percent

Characteristics of Aquepts

Setting
Landform: Flood plains
Geomorphic position (three-dimensional): Treads
Downslope shape: Concave
Across-slope shape: Linear, concave

Properties and qualities
Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 0 to 1 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Poorly drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: Frequent (see Water Features table)
Ponding frequency: Frequent (see Water Features table)
Seasonal high water table (minimum depth): At the soil surface to a depth of 9 inches (see Water Features table)
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 11.6 inches)

Interpretive groups
Land capability subclass (nonirrigated): 5w
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
A—0 to 3 inches; mucky silty clay loam
Bw—3 to 9 inches; silty clay loam
Bg—9 to 20 inches; silty clay loam
Cg—20 to 60 inches; silty clay loam

Dissimilar Minor Components

Dystrudepts
Percentage of map unit: 10 percent
Landform: Flood plains

Nestucca soils
Percentage of map unit: 5 percent
Landform: Flood plains

116A—Aquepts, warm, 0 to 1 percent slopes

Map Unit Setting

General landscape: Coast Range valleys (fig. 34)
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 500 to 1,900 feet
Mean annual precipitation: 80 to 100 inches

Figure 34.—Area of Aquepts, warm, 0 to 1 percent slopes, in the interior mountains.

Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 120 to 260 days

Map Unit Composition

Aquepts, warm, and similar soils: 85 percent
Dissimilar minor components: 15 percent

Characteristics of Aquepts, Warm

Setting
Landform: Flood plains
Geomorphic position (three-dimensional): Treads
Downslope shape: Concave
Across-slope shape: Linear, concave

Properties and qualities
Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 0 to 1 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Poorly drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: Frequent (see Water Features table)
Ponding frequency: Frequent (see Water Features table)

Seasonal high water table (minimum depth): At the soil surface to a depth of 9 inches (see Water Features table)
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 12.1 inches)

Interpretive groups
Land capability subclass (nonirrigated): 5w
Plant association group: Western hemlock/salmonberry-wet (1908)

Typical profile
A—0 to 9 inches; silt loam
Bw1—9 to 20 inches; silty clay loam
Bw2—20 to 43 inches; silty clay loam
Bg—43 to 60 inches; silty clay loam

Dissimilar Minor Components

Dystrudepts, warm
Percentage of map unit: 10 percent
Landform: Flood plains

Nestucca soils
Percentage of map unit: 5 percent
Landform: Flood plains

118B—Oxyaquic Hapludands-Alic Hapludands complex, 0 to 7 percent slopes

Map Unit Setting

General landscape: Coast Range valleys
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 400 to 1,000 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 120 to 210 days

Map Unit Composition

Oxyaquic Hapludands, flood plains, and similar soils: 45 percent
Alic Hapludands, terraces, and similar soils: 30 percent
Dissimilar minor components: 25 percent

Characteristics of Oxyaquic Hapludands, Flood Plains

Setting
Landform: Flood plains
Geomorphic position (three-dimensional): Treads
Downslope shape: Concave, linear
Across-slope shape: Concave, linear

Properties and qualities
Parent material: Alluvium derived from igneous rock
Slope range: 0 to 3 percent
Depth to restrictive feature: 25 to 61 inches to strongly contrasting textural stratification

Drainage class: Moderately well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: Occasional (see Water Features table)
Ponding frequency: None
Seasonal high water table (minimum depth): About 25 to 38 inches (see Water Features table)
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 9.8 inches)

Interpretive groups
Land capability subclass (nonirrigated): 4w
Plant association group: Western hemlock/salmonberry-wet (1908)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A—1 to 20 inches; medial silt loam
2C—20 to 25 inches; extremely gravelly clay loam
3C1—25 to 38 inches; loamy sand
3C2—38 to 61 inches; extremely gravelly loamy sand

Characteristics of Alic Hapludands, Terraces

Setting
Landform: Stream terraces
Geomorphic position (three-dimensional): Treads
Downslope shape: Concave
Across-slope shape: Linear, concave

Properties and qualities
Parent material: Alluvium derived from igneous rock
Slope range: 0 to 7 percent
Depth to restrictive feature: 37 to 61 inches to strongly contrasting textural stratification
Drainage class: Excessively drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 11.8 inches)

Interpretive groups
Land capability subclass (nonirrigated): 4s
Plant association group: Western hemlock/salmonberry-wet (1908)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 13 inches; medial loam
A2—13 to 23 inches; medial loam
Bw—23 to 37 inches; medial fine sandy loam
2C—37 to 61 inches; extremely cobbly loamy sand

Dissimilar Minor Components

Riverwash
Percentage of map unit: 10 percent
Landform: Rivers, streams

Alic Hapludands, fan
Percentage of map unit: 5 percent
Landform: Alluvial fans

Brenner soils
Percentage of map unit: 5 percent
Landform: Depressions of flood plains

Croquib soils
Percentage of map unit: 5 percent
Landform: Depressions of stream terraces

119B—Oxyaquic Fulvudands-Typic Fulvudands complex, 0 to 7 percent slopes

Map Unit Setting

General landscape: Coastal river valleys
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 100 to 600 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Map Unit Composition

Oxyaquic Fulvudands, flood plains, and similar soils: 45 percent
Typic Fulvudands, terraces, and similar soils: 30 percent
Dissimilar minor components: 25 percent

Characteristics of Oxyaquic Fulvudands, Flood Plains

Setting
Landform: Flood plains
Geomorphic position (three-dimensional): Treads
Downslope shape: Concave
Across-slope shape: Linear

Properties and qualities
Parent material: Alluvium derived from igneous rock
Slope range: 0 to 3 percent
Depth to restrictive feature: 12 to 20 inches to strongly contrasting textural stratification
Drainage class: Moderately well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: Occasional (see Water Features table)
Ponding frequency: None
Seasonal high water table (minimum depth): About 26 to 60 inches (see Water Features table)
Salinity (maximum): Nonsaline (about 1 millimho per centimeter)
Available water capacity (entire profile): Moderate (about 8.4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 4w
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
A—0 to 19 inches; medial silt loam
2C1—19 to 26 inches; extremely gravelly loamy sand
2C2—26 to 60 inches; extremely cobbly loamy sand

Characteristics of Typic Fulvudands, Terraces

Setting
Landform: Stream terraces
Geomorphic position (three-dimensional): Treads
Downslope shape: Concave, linear
Across-slope shape: Concave, linear

Properties and qualities
Parent material: Alluvium derived from igneous rock
Slope range: 0 to 7 percent
Depth to restrictive feature: 30 to 50 inches to strongly contrasting textural stratification
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 16.2 inches)

Interpretive groups
Land capability subclass (nonirrigated): 4e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 8 inches; medial loam
A2—8 to 21 inches; medial loam
Bw1—21 to 35 inches; medial loam
Bw2—35 to 45 inches; very cobbly medial loam
C1—45 to 53 inches; extremely cobbly loam
C2—53 to 61 inches; extremely cobbly fine sandy loam

Dissimilar Minor Components

Riverwash
Percentage of map unit: 10 percent
Landform: Rivers, streams

Brenner soils
Percentage of map unit: 5 percent
Landform: Depressions of flood plains

Croquib soils
Percentage of map unit: 5 percent
Landform: Depressions of stream terraces

Typic Fulvudands, fan
Percentage of map unit: 5 percent
Landform: Alluvial fans

120C—Alic Hapludands complex, 3 to 15 percent slopes

Map Unit Setting

General landscape: Coast Range valleys
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys

Elevation: 400 to 1,000 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 120 to 210 days

Map Unit Composition

Alic Hapludands, terraces, and similar soils: 60 percent
Alic Hapludands, fans, and similar soils: 35 percent
Dissimilar minor component: 5 percent

Characteristics of Alic Hapludands, Terraces

Setting
Landform: Stream terraces
Geomorphic position (three-dimensional): Treads
Downslope shape: Concave
Across-slope shape: Linear
Aspect (representative): West
Aspect (range): Southeast to north (clockwise)

Properties and qualities
Parent material: Alluvium derived from igneous rock
Slope range: 3 to 15 percent
Depth to restrictive feature: 37 to 61 inches to strongly contrasting textural stratification
Drainage class: Excessively drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 11.8 inches)

Interpretive groups
Land capability subclass (nonirrigated): 4s
Plant association group: Western hemlock/salmonberry-wet (1908)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 13 inches; medial loam
A2—13 to 23 inches; medial loam
Bw—23 to 37 inches; medial fine sandy loam
2C—37 to 61 inches; extremely cobbly loamy sand

Characteristics of Alic Hapludands, Fans

Setting
Landform: Alluvial fans
Geomorphic position (three-dimensional): Risers
Downslope shape: Concave, linear
Across-slope shape: Concave, linear
Aspect (representative): West
Aspect (range): Southeast to north (clockwise)

Properties and qualities
Parent material: Debris flow deposits derived from igneous rock
Slope range: 3 to 15 percent
Depth to restrictive feature: None within a depth of 60 inches

Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Moderate (about 7.8 inches)

Interpretive groups
Land capability subclass (nonirrigated): 4e
Plant association group: Western hemlock/salmonberry-wet (1908)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A—1 to 11 inches; very gravelly medial loam
Bw1—11 to 23 inches; extremely gravelly medial loam
Bw2—23 to 45 inches; very gravelly medial loam
Bw3—45 to 61 inches; very gravelly medial loam

Dissimilar Minor Component

Croquib soils
Percentage of map unit: 5 percent
Landform: Depressions of stream terraces

121D—Fendall-Munsoncreek medial silt loams, 5 to 30 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 50 to 500 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Map Unit Composition

Fendall and similar soils: 50 percent
Munsoncreek and similar soils: 30 percent
Dissimilar minor components: 20 percent

Characteristics of Fendall

Setting
Landform: Hillslopes
Geomorphic position (two-dimensional): Summits, shoulders
Geomorphic position (three-dimensional): Crests, interfluves, nose slopes
Downslope shape: Linear, convex
Across-slope shape: Linear, convex
Aspect (representative): West
Aspect (range): Southeast to north (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 5 to 30 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock

Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Moderate (about 7.4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 8 inches; medial silt loam
A—8 to 13 inches; silt loam
Bw1—13 to 17 inches; silty clay loam
Bw2—17 to 27 inches; paragravelly silty clay loam
BC—27 to 34 inches; very paragravelly silty clay loam
2Cr—34 to 44 inches; weathered bedrock

Characteristics of Munsoncreek

Setting
Landform: Hillslopes
Geomorphic position (two-dimensional): Footslopes, summits
Geomorphic position (three-dimensional): Base slopes, interfluves
Downslope shape: Concave, linear
Across-slope shape: Concave, linear
Aspect (representative): West
Aspect (range): Southeast to north (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 5 to 30 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 11.4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A—1 to 10 inches; medial silt loam
AB—10 to 18 inches; silty clay loam
Bw1—18 to 28 inches; silty clay loam
Bw2—28 to 41 inches; silty clay loam
Bw3—41 to 58 inches; extremely paragravelly silty clay loam
Cr—58 to 68 inches; weathered bedrock

Dissimilar Minor Components

Aquepts
Percentage of map unit: 5 percent
Landform: Hillslopes

Necanicum soils
Percentage of map unit: 5 percent
Landform: Hillslopes

Salander soils
Percentage of map unit: 5 percent
Landform: Hillslopes

Neskowin soils
Percentage of map unit: 3 percent
Landform: Hillslopes

Neotsu soils
Percentage of map unit: 2 percent
Landform: Hillslopes

125B—Siletz medial silt loam, 0 to 7 percent slopes

Map Unit Setting

General landscape: Coastal river valleys (fig. 35)
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 50 to 400 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Map Unit Composition

Siletz and similar soils: 80 percent
Dissimilar minor components: 20 percent

Characteristics of Siletz

Setting
Landform: Stream terraces
Geomorphic position (three-dimensional): Treads
Downslope shape: Linear, concave
Across-slope shape: Linear

Properties and qualities
Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 0 to 7 percent
Depth to restrictive feature: 40 to 60 inches to strongly contrasting textural stratification
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches

Figure 35.—Area of Siletz medial silt loam, 0 to 7 percent slopes, along the Nestucca River. Klootchie soils in background.

Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 13.7 inches)

Interpretive groups
Land capability subclass (nonirrigated): 2e
Land capability subclass (irrigated): 3e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 9 inches; medial silt loam
A—9 to 19 inches; medial silt loam
2Bw1—19 to 32 inches; silty clay loam
2Bw2—32 to 41 inches; clay loam
3C—41 to 52 inches; fine sandy loam
4C—52 to 60 inches; extremely gravelly loamy sand

Dissimilar Minor Components

Euchre soils
Percentage of map unit: 5 percent
Landform: Stream terraces

Hebo soils
Percentage of map unit: 5 percent
Landform: Depressions of stream terraces

Walluski soils
Percentage of map unit: 5 percent
Landform: Stream terraces

Wolfer soils
Percentage of map unit: 5 percent
Landform: Stream terraces

126B—Siletz medial silt loam, warm, 0 to 7 percent slopes

Map Unit Setting

General landscape: Coast Range valleys
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 50 to 400 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 120 to 260 days

Map Unit Composition

Siletz, warm, and similar soils: 80 percent
Dissimilar minor components: 20 percent

Characteristics of Siletz, Warm

Setting
Landform: Stream terraces
Geomorphic position (three-dimensional): Treads
Downslope shape: Linear, concave
Across-slope shape: Linear

Properties and qualities
Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 0 to 7 percent
Depth to restrictive feature: 40 to 60 inches to strongly contrasting textural stratification
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 13.7 inches)

Interpretive groups
Land capability subclass (nonirrigated): 2e
Land capability subclass (irrigated): 3e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Ap—0 to 9 inches; medial silt loam
A—9 to 19 inches; medial silt loam
2Bw1—19 to 32 inches; silty clay loam
2Bw2—32 to 41 inches; clay loam
3C—41 to 52 inches; fine sandy loam
4C—52 to 60 inches; extremely gravelly loamy sand

Dissimilar Minor Components

Euchre soils, warm
Percentage of map unit: 5 percent
Landform: Stream terraces

Hebo soils, warm
Percentage of map unit: 5 percent
Landform: Depressions of stream terraces

Walluski soils, warm
Percentage of map unit: 5 percent
Landform: Stream terraces

Wolfer soils, warm
Percentage of map unit: 5 percent
Landform: Stream terraces

127C—Condorbridge gravelly medial loam, warm, 3 to 15 percent slopes

Map Unit Setting

General landscape: Coast Range valleys
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 20 to 200 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 120 to 260 days

Map Unit Composition

Condorbridge, warm, and similar soils: 80 percent
Dissimilar minor components: 20 percent

Characteristics of Condorbridge, Warm

Setting
Landform: Alluvial fans
Geomorphic position (three-dimensional): Risers
Downslope shape: Concave, linear
Across-slope shape: Linear
Aspect (representative): South
Aspect (range): Northeast to northwest (clockwise)

Properties and qualities
Parent material: Alluvium and/or debris flow deposits derived from igneous and sedimentary rock
Slope range: 3 to 15 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 13.2 inches)

Interpretive groups
Land capability subclass (nonirrigated): 3e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Ap—0 to 5 inches; gravelly medial loam
A—5 to 12 inches; gravelly medial loam

BA—12 to 26 inches; gravelly loam
Bw1—26 to 35 inches; paragravelly clay loam
Bw2—35 to 53 inches; paragravelly clay loam
Bw3—53 to 60 inches; paragravelly clay loam

Dissimilar Minor Components

Walluski soils, warm
Percentage of map unit: 10 percent
Landform: Stream terraces

Hebo soils, warm
Percentage of map unit: 5 percent
Landform: Depressions of stream terraces

Typic Fulvudands, warm
Percentage of map unit: 5 percent
Landform: Alluvial fans

128B—Siletz-Wolfer medial silt loams, 0 to 7 percent slopes

Map Unit Setting

General landscape: Coastal river valleys
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 50 to 250 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Map Unit Composition

Siletz and similar soils: 45 percent
Wolfer and similar soils: 40 percent
Dissimilar minor components: 15 percent

Characteristics of Siletz

Setting
Landform: Stream terraces
Geomorphic position (three-dimensional): Treads
Downslope shape: Linear
Across-slope shape: Linear

Properties and qualities
Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 0 to 7 percent
Depth to restrictive feature: 40 to 60 inches to strongly contrasting textural stratification
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 13.7 inches)

Interpretive groups
Land capability subclass (nonirrigated): 2e
Land capability subclass (irrigated): 3e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 9 inches; medial silt loam
A—9 to 19 inches; medial silt loam
2Bw1—19 to 32 inches; silty clay loam
2Bw2—32 to 41 inches; clay loam
3C—41 to 52 inches; fine sandy loam
4C—52 to 60 inches; extremely gravelly loamy sand

Characteristics of Wolfer

Setting
Landform: Stream terraces
Geomorphic position (three-dimensional): Treads
Downslope shape: Concave
Across-slope shape: Linear

Properties and qualities
Parent material: Silty alluvium over sandy and gravelly alluvium derived from igneous rock
Slope range: 0 to 7 percent
Depth to restrictive feature: 24 to 36 inches to strongly contrasting textural stratification
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 13.6 inches)

Interpretive groups
Land capability subclass (nonirrigated): 3s
Land capability subclass (irrigated): 3e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Ap—0 to 8 inches; medial silt loam
A—8 to 14 inches; medial silt loam
AB—14 to 22 inches; medial silt loam
Bw—22 to 35 inches; medial silty clay loam
2C—35 to 60 inches; extremely gravelly loam

Dissimilar Minor Components

Euchre soils
Percentage of map unit: 5 percent
Landform: Stream terraces

Hebo soils
Percentage of map unit: 5 percent
Landform: Depressions of stream terraces

Walluski soils
Percentage of map unit: 5 percent
Landform: Stream terraces

144F—Harslow-Rock outcrop-Klistan complex, 60 to 90 percent south slopes

Map Unit Setting

General landscape: Coast Range (fig. 36)
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 200 to 2,200 feet
Mean annual precipitation: 80 to 120 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 160 to 210 days

Map Unit Composition

Harslow, south slopes, and similar soils: 40 percent
Rock outcrop, south slopes: 30 percent
Klistan, south slopes, and similar soils: 20 percent
Dissimilar minor component: 10 percent

Characteristics of Harslow, South Slopes

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Shoulders, backslopes
Geomorphic position (three-dimensional): Upper third of mountain flanks
Downslope shape: Convex
Across-slope shape: Convex

Figure 36.—Area of Harslow-Rock outcrop-Klistan complex, 60 to 90 percent south slopes.

Aspect (representative): South
Aspect (range): East to southwest (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 60 to 90 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 3.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7s
Plant association group: Western hemlock/Oregon grape-salal (1906)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 7 inches; extremely gravelly medial loam
A2—7 to 13 inches; extremely gravelly medial loam
Bw—13 to 22 inches; extremely gravelly medial loam
BC—22 to 37 inches; extremely gravelly medial loam
R—37 to 41 inches; unweathered bedrock

Characteristics of Rock Outcrop, South Slopes

Landform: Mountain slopes
Geomorphic position (two-dimensional): Shoulders
Geomorphic position (three-dimensional): Free faces
Slope range: 60 to 90 percent
Land capability subclass (nonirrigated): 8
Typical profile: R—0 to 60 inches; unweathered bedrock

Characteristics of Klistan, South Slopes

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, footslopes
Geomorphic position (three-dimensional): Center third of mountain flanks, lower third of mountain flanks
Downslope shape: Concave
Across-slope shape: Concave
Aspect (representative): South
Aspect (range): East to southwest (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 60 to 90 percent
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches

Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 5 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7e
Plant association group: Western hemlock/Oregon grape-salal (1906)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 7 inches; very gravelly medial loam
A2—7 to 14 inches; very gravelly medial loam
Bw1—14 to 26 inches; very gravelly medial loam
Bw2—26 to 36 inches; extremely gravelly medial loam
Bw3—36 to 44 inches; extremely gravelly medial loam
R—44 to 48 inches; unweathered bedrock

Dissimilar Minor Component

Kilchis soils, south slopes
Percentage of map unit: 10 percent
Landform: Mountain slopes

145F—Rock outcrop-Harslow complex, 40 to 100 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 200 to 2,200 feet
Mean annual precipitation: 80 to 120 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 210 days

Map Unit Composition

Rock outcrop: 60 percent
Harslow and similar soils: 25 percent
Dissimilar minor components: 15 percent

Characteristics of Rock Outcrop

Landform: Mountain slopes
Geomorphic position (two-dimensional): Shoulders
Geomorphic position (three-dimensional): Free faces
Slope range: 40 to 100 percent
Land capability subclass (nonirrigated): 8
Typical profile: R—0 to 60 inches; unweathered bedrock

Characteristics of Harslow

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, footslopes
Geomorphic position (three-dimensional): Mountain flanks
Downslope shape: Concave, linear

Across-slope shape: Concave, linear
Aspect (representative): South
Aspect (range): East to southwest (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 40 to 90 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 3.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7s
Plant association group: Western hemlock/Oregon grape-salal (1906)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 7 inches; extremely gravelly medial loam
A2—7 to 13 inches; extremely gravelly medial loam
Bw—13 to 22 inches; extremely gravelly medial loam
BC—22 to 37 inches; extremely gravelly medial loam
R—37 to 41 inches; unweathered bedrock

Dissimilar Minor Components

Kilchis soils
Percentage of map unit: 10 percent
Landform: Mountain slopes

Klistan soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

156F—Sevencedars-Newanna complex, 60 to 90 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 2,800 to 3,700 feet
Mean annual precipitation: 130 to 150 inches
Mean annual air temperature: 39 to 42 degrees F
Frost-free period: 40 to 80 days

Map Unit Composition

Sevencedars and similar soils: 55 percent
Newanna and similar soils: 30 percent
Dissimilar minor components: 15 percent

Characteristics of Sevencedars

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, footslopes
Geomorphic position (three-dimensional): Center third of mountain flanks, lower third of mountain flanks
Downslope shape: Concave, convex, linear
Across-slope shape: Concave, linear
Aspect (representative): North
Aspect (range): Southwest to east (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 60 to 90 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 9.7 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7e
Plant association group: Pacific silver fir/oxalis-high precipitation (2208)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 6 inches; gravelly medial loam
A2—6 to 13 inches; very cobbly medial loam
Bw1—13 to 28 inches; very cobbly medial loam
Bw2—28 to 53 inches; very cobbly medial loam
Bw3—53 to 68 inches; very gravelly medial sandy loam

Characteristics of Newanna

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, shoulders
Geomorphic position (three-dimensional): Upper third of mountain flanks
Downslope shape: Convex
Across-slope shape: Convex
Aspect (representative): North
Aspect (range): Southwest to east (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 60 to 90 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None

Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 5 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7e
Plant association group: Pacific silver fir/oxalis-high precipitation (2208)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A—1 to 11 inches; very cobbly medial loam
Bw1—11 to 32 inches; very cobbly medial loam
Bw2—32 to 38 inches; very cobbly medial loam
R—38 to 42 inches; unweathered bedrock

Dissimilar Minor Components

Woodspoint soils
Percentage of map unit: 6 percent
Landform: Mountain slopes

Yellowstone soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Rock outcrop
Percentage of map unit: 4 percent
Landform: Mountain slopes

157D—Caterl very cobbly medial loam, till substratum, 5 to 30 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 2,400 to 2,800 feet
Mean annual precipitation: 100 to 130 inches
Mean annual air temperature: 42 to 46 degrees F
Frost-free period: 60 to 100 days

Map Unit Composition

Caterl, till substratum, and similar soils: 80 percent
Dissimilar minor components: 20 percent

Characteristics of Caterl, Till Substratum

Setting
Landform: Mountain slopes (fig. 37)
Geomorphic position (two-dimensional): Summits, toeslopes
Geomorphic position (three-dimensional): Mountaintops, mountain bases
Downslope shape: Linear, convex, concave
Across-slope shape: Linear, convex, concave
Aspect (representative): Northeast
Aspect (range): Northwest to east (clockwise)

Figure 37.—Profile of Caterl very cobbly medial loam, till substratum, 5 to 30 percent slopes.

Properties and qualities

Parent material: Colluvium over glacial till derived from igneous rock
Slope range: 5 to 30 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Moderate (about 7.9 inches)

Interpretive groups

Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/Alaska huckleberry/oxalis (1909)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 5 inches; very cobbly medial loam
A2—5 to 17 inches; very cobbly medial loam
Bw—17 to 42 inches; very cobbly medial loam
BC—42 to 62 inches; extremely cobbly medial loam

Dissimilar Minor Components

Murtip soils, till substratum
Percentage of map unit: 13 percent
Landform: Mountain slopes

Caterl soils, stony surface
Percentage of map unit: 5 percent
Landform: Mountain slopes

Laderly soils
Percentage of map unit: 2 percent
Landform: Mountain slopes

157E—Caterl very cobbly medial loam, till substratum, 30 to 60 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 2,400 to 2,800 feet
Mean annual precipitation: 100 to 130 inches
Mean annual air temperature: 42 to 46 degrees F
Frost-free period: 60 to 100 days

Map Unit Composition

Caterl, till substratum, and similar soils: 80 percent
Dissimilar minor components: 20 percent

Characteristics of Caterl, Till Substratum

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Footslopes, backslopes
Geomorphic position (three-dimensional): Mountain flanks
Downslope shape: Concave, convex, linear
Across-slope shape: Concave, convex, linear
Aspect (representative): Northeast
Aspect (range): Northwest to east (clockwise)

Properties and qualities
Parent material: Colluvium over glacial till derived from igneous rock
Slope range: 30 to 60 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None

Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Moderate (about 7.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/Alaska huckleberry/oxalis (1909)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 5 inches; very cobbly medial loam
A2—5 to 17 inches; very cobbly medial loam
Bw—17 to 42 inches; very cobbly medial loam
BC—42 to 62 inches; extremely cobbly medial loam

Dissimilar Minor Components

Murtip soils, till substratum
Percentage of map unit: 10 percent
Landform: Mountain slopes

Caterl soils, stony surface
Percentage of map unit: 5 percent
Landform: Mountain slopes

Laderly soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

157F—Caterl very cobbly medial loam, till substratum, 60 to 90 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 2,400 to 2,800 feet
Mean annual precipitation: 100 to 130 inches
Mean annual air temperature: 42 to 46 degrees F
Frost-free period: 60 to 100 days

Map Unit Composition

Caterl, till substratum, and similar soils: 80 percent
Dissimilar minor components: 20 percent

Characteristics of Caterl, Till Substratum

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, footslopes
Geomorphic position (three-dimensional): Mountain flanks
Downslope shape: Concave, linear
Across-slope shape: Concave

Aspect (representative): Northeast
Aspect (range): Northwest to east (clockwise)

Properties and qualities
Parent material: Colluvium over glacial till derived from igneous rock
Slope range: 60 to 90 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Moderate (about 7.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7e
Plant association group: Western hemlock/Alaska huckleberry/oxalis (1909)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 5 inches; very cobbly medial loam
A2—5 to 17 inches; very cobbly medial loam
Bw—17 to 42 inches; very cobbly medial loam
BC—42 to 62 inches; extremely cobbly medial loam

Dissimilar Minor Components

Laderly soils
Percentage of map unit: 10 percent
Landform: Mountain slopes

Caterl soils, stony surface
Percentage of map unit: 5 percent
Landform: Mountain slopes

Rock outcrop
Percentage of map unit: 3 percent
Landform: Mountain slopes

Murtip soils, till substratum
Percentage of map unit: 2 percent
Landform: Mountain slopes

158D—Sevencedars very cobbly medial loam, till substratum, 5 to 30 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 2,800 to 3,700 feet
Mean annual precipitation: 130 to 150 inches

Mean annual air temperature: 39 to 42 degrees F
Frost-free period: 40 to 80 days

Map Unit Composition

Sevencedars, till substratum, and similar soils: 80 percent
Dissimilar minor components: 20 percent

Characteristics of Sevencedars, Till Substratum

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Summits, toeslopes
Geomorphic position (three-dimensional): Mountaintops, mountain bases
Downslope shape: Linear, convex
Across-slope shape: Linear, concave, convex
Aspect (representative): Northeast
Aspect (range): Northwest to east (clockwise)

Properties and qualities
Parent material: Colluvium over glacial till derived from igneous rock
Slope range: 5 to 30 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 9.7 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Pacific silver fir/oxalis-high precipitation (2208)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 6 inches; very cobbly medial loam
A2—6 to 13 inches; very cobbly medial loam
Bw1—13 to 28 inches; very cobbly medial loam
Bw2—28 to 53 inches; very cobbly medial loam
Bw3—53 to 68 inches; very gravelly sandy loam

Dissimilar Minor Components

Woodspoint soils, till substratum
Percentage of map unit: 13 percent
Landform: Mountain slopes

Sevencedars soils, stony surface
Percentage of map unit: 5 percent
Landform: Mountain slopes

Newanna soils
Percentage of map unit: 2 percent
Landform: Mountain slopes

158E—Sevencedars very cobbly medial loam, till substratum, 30 to 60 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 2,800 to 3,700 feet
Mean annual precipitation: 130 to 150 inches
Mean annual air temperature: 39 to 42 degrees F
Frost-free period: 40 to 80 days

Map Unit Composition

Sevencedars, till substratum, and similar soils: 80 percent
Dissimilar minor components: 20 percent

Characteristics of Sevencedars, Till Substratum

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Footslopes, backslopes
Geomorphic position (three-dimensional): Mountain flanks
Downslope shape: Concave, linear
Across-slope shape: Concave, linear, convex
Aspect (representative): North
Aspect (range): West to northeast (clockwise)

Properties and qualities
Parent material: Colluvium over glacial till derived from igneous rock
Slope range: 30 to 60 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 9.7 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Pacific silver fir/oxalis-high precipitation (2208)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 6 inches; very cobbly medial loam
A2—6 to 13 inches; very cobbly medial loam
Bw1—13 to 28 inches; very cobbly medial loam
Bw2—28 to 53 inches; very cobbly medial loam
Bw3—53 to 68 inches; very gravelly sandy loam

Dissimilar Minor Components

Woodspoint soils, till substratum
Percentage of map unit: 10 percent
Landform: Mountain slopes

Newanna soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Sevencedars soils, stony surface
Percentage of map unit: 5 percent
Landform: Mountain slopes

158F—Sevencedars very cobbly medial loam, till substratum, 60 to 90 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 2,800 to 3,700 feet
Mean annual precipitation: 130 to 150 inches
Mean annual air temperature: 39 to 42 degrees F
Frost-free period: 40 to 80 days

Map Unit Composition

Sevencedars, till substratum, and similar soils: 85 percent
Dissimilar minor components: 15 percent

Characteristics of Sevencedars, Till Substratum

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, footslopes
Geomorphic position (three-dimensional): Mountain flanks
Downslope shape: Concave, convex, linear
Across-slope shape: Concave, convex, linear
Aspect (representative): North
Aspect (range): West to northeast (clockwise)

Properties and qualities
Parent material: Colluvium over glacial till derived from igneous rock
Slope range: 60 to 90 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 9.7 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7e
Plant association group: Pacific silver fir/oxalis-high precipitation (2208)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 6 inches; very cobbly medial loam

A2—6 to 13 inches; very cobbly medial loam
Bw1—13 to 28 inches; very cobbly medial loam
Bw2—28 to 53 inches; very cobbly medial loam
Bw3—53 to 68 inches; very gravelly sandy loam

Dissimilar Minor Components

Newanna soils
Percentage of map unit: 7 percent
Landform: Mountain slopes

Sevencedars soils, stony surface
Percentage of map unit: 5 percent
Landform: Mountain slopes

Rock outcrop
Percentage of map unit: 3 percent
Landform: Mountain slopes

159D—Sevencedars very cobbly medial loam, clayey, 5 to 30 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 2,800 to 3,700 feet
Mean annual precipitation: 130 to 150 inches
Mean annual air temperature: 39 to 42 degrees F
Frost-free period: 40 to 80 days

Map Unit Composition

Sevencedars, clayey, and similar soils: 85 percent
Dissimilar minor components: 15 percent

Characteristics of Sevencedars, Clayey

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Summits, toeslopes
Geomorphic position (three-dimensional): Mountaintops, mountain bases
Downslope shape: Linear, convex
Across-slope shape: Linear, convex
Aspect (representative): North
Aspect (range): West to northeast (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock over residuum derived from tuff
Slope range: 5 to 30 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 9.4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Pacific silver fir/oxalis-high precipitation (2208)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 6 inches; very cobbly medial loam
A2—6 to 13 inches; very cobbly medial loam
Bw1—13 to 28 inches; very cobbly medial clay loam
Bw2—28 to 53 inches; very cobbly medial clay loam
Bw3—53 to 68 inches; very cobbly clay loam

Dissimilar Minor Components

Newanna soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Sevencedars soils, stony surface
Percentage of map unit: 5 percent
Landform: Mountain slopes

Woodspoint soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

161D—Sevencedars-Newanna-Woodspoint complex, 5 to 30 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 2,800 to 3,700 feet
Mean annual precipitation: 130 to 150 inches
Mean annual air temperature: 39 to 42 degrees F
Frost-free period: 40 to 80 days

Map Unit Composition

Sevencedars and similar soils: 35 percent
Newanna and similar soils: 30 percent
Woodspoint and similar soils: 25 percent
Dissimilar minor components: 10 percent

Characteristics of Sevencedars

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Summits, footslopes
Geomorphic position (three-dimensional): Mountaintops, mountain bases
Downslope shape: Convex, linear
Across-slope shape: Linear, convex, concave
Aspect (range): All aspects

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 5 to 30 percent

Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 9.7 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Pacific silver fir/oxalis-high precipitation (2208)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 6 inches; gravelly medial loam
A2—6 to 13 inches; very cobbly medial loam
Bw1—13 to 28 inches; very cobbly medial loam
Bw2—28 to 53 inches; very cobbly medial loam
Bw3—53 to 68 inches; very gravelly medial sandy loam

Characteristics of Newanna

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Summits, shoulders
Geomorphic position (three-dimensional): Mountaintops, mountain bases
Downslope shape: Convex
Across-slope shape: Convex
Aspect (range): All aspects

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 5 to 30 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 5 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Pacific silver fir/oxalis-high precipitation (2208)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A—1 to 11 inches; very cobbly medial loam
Bw1—11 to 32 inches; very cobbly medial loam
Bw2—32 to 38 inches; very cobbly medial loam
R—38 to 42 inches; unweathered bedrock

Characteristics of Woodspoint

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Summits, toeslopes

Geomorphic position (three-dimensional): Mountaintops, mountain bases
Downslope shape: Linear, concave
Across-slope shape: Linear, concave
Aspect (range): All aspects

Properties and qualities
Parent material: Colluvium and residuum derived from igneous rock
Slope range: 5 to 30 percent
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 14.5 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Pacific silver fir/oxalis-high precipitation (2208)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 7 inches; medial silt loam
A2—7 to 19 inches; medial silt loam
Bw1—19 to 29 inches; medial silt loam
Bw2—29 to 38 inches; gravelly medial loam
Bw3—38 to 49 inches; gravelly medial silt loam
R—49 to 53 inches; unweathered bedrock

Dissimilar Minor Components

Mulkey soils
Percentage of map unit: 6 percent
Landform: Mountain slopes

Rock outcrop
Percentage of map unit: 4 percent
Landform: Mountain slopes

161E—Sevencedars-Newanna-Woodspoint complex, 30 to 60 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 2,800 to 3,700 feet
Mean annual precipitation: 130 to 150 inches
Mean annual air temperature: 39 to 42 degrees F
Frost-free period: 40 to 80 days

Map Unit Composition

Sevencedars and similar soils: 50 percent
Newanna and similar soils: 20 percent

Woodspoint and similar soils: 20 percent
Dissimilar minor components: 10 percent

Characteristics of Sevencedars

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, footslopes
Geomorphic position (three-dimensional): Center third of mountain flanks, lower third of mountain flanks
Downslope shape: Linear, convex
Across-slope shape: Linear, convex, concave
Aspect (representative): Northeast
Aspect (range): Southwest to south (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 30 to 60 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 9.7 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Pacific silver fir/oxalis-high precipitation (2208)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 6 inches; gravelly medial loam
A2—6 to 13 inches; very cobbly medial loam
Bw1—13 to 28 inches; very cobbly medial loam
Bw2—28 to 53 inches; very cobbly medial loam
Bw3—53 to 68 inches; very gravelly medial sandy loam

Characteristics of Newanna

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, shoulders
Geomorphic position (three-dimensional): Upper third of mountain flanks
Downslope shape: Convex
Across-slope shape: Convex
Aspect (representative): Northeast
Aspect (range): Southwest to south (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 30 to 60 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None

Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 5 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Pacific silver fir/oxalis-high precipitation (2208)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A—1 to 11 inches; very cobbly medial loam
Bw1—11 to 32 inches; very cobbly medial loam
Bw2—32 to 38 inches; very cobbly medial loam
R—38 to 42 inches; unweathered bedrock

Characteristics of Woodspoint

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Footslopes, backslopes
Geomorphic position (three-dimensional): Lower third of mountain flanks, center third of mountain flanks
Downslope shape: Linear, concave
Across-slope shape: Concave
Aspect (representative): Northeast
Aspect (range): Southwest to south (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from igneous rock
Slope range: 30 to 60 percent
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 14.5 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Pacific silver fir/oxalis-high precipitation (2208)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 7 inches; medial silt loam
A2—7 to 19 inches; medial silt loam
Bw1—19 to 29 inches; medial silt loam
Bw2—29 to 38 inches; gravelly medial loam
Bw3—38 to 49 inches; gravelly medial silt loam
R—49 to 53 inches; unweathered bedrock

Dissimilar Minor Components

Mulkey soils
Percentage of map unit: 6 percent
Landform: Mountain slopes

Rock outcrop
Percentage of map unit: 4 percent
Landform: Mountain slopes

161F—Newanna-Sevencedars-Rock outcrop complex, 60 to 90 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 2,800 to 3,700 feet
Mean annual precipitation: 130 to 150 inches
Mean annual air temperature: 39 to 42 degrees F
Frost-free period: 40 to 80 days

Map Unit Composition

Newanna and similar soils: 35 percent
Sevencedars and similar soils: 35 percent
Rock outcrop: 20 percent
Dissimilar minor components: 10 percent

Characteristics of Newanna

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, shoulders
Geomorphic position (three-dimensional): Upper third of mountain flanks
Downslope shape: Convex
Across-slope shape: Convex, linear
Aspect (representative): Northwest
Aspect (range): Southwest to northeast (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 60 to 90 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 5 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7e
Plant association group: Pacific silver fir/oxalis-high precipitation (2208)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A—1 to 11 inches; very cobbly medial loam
Bw1—11 to 32 inches; very cobbly medial loam

Bw2—32 to 38 inches; very cobbly medial loam
R—38 to 42 inches; unweathered bedrock

Characteristics of Sevencedars

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, footslopes
Geomorphic position (three-dimensional): Center third of mountain flanks, lower third of mountain flanks
Downslope shape: Concave, convex, linear
Across-slope shape: Concave, linear
Aspect (representative): Northwest
Aspect (range): Southwest to northeast (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 60 to 90 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 9.7 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7e
Plant association group: Pacific silver fir/oxalis-high precipitation (2208)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 6 inches; gravelly medial loam
A2—6 to 13 inches; very cobbly medial loam
Bw1—13 to 28 inches; very cobbly medial loam
Bw2—28 to 53 inches; very cobbly medial loam
Bw3—53 to 68 inches; very gravelly medial sandy loam

Characteristics of Rock Outcrop

Landform: Mountain slopes
Geomorphic position (two-dimensional): Shoulders
Geomorphic position (three-dimensional): Free faces
Slope range: 60 to 90 percent
Land capability subclass (nonirrigated): 8
Typical profile: R—0 to 60 inches; unweathered bedrock

Dissimilar Minor Components

Woodspoint soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Yellowstone soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

162D—Mosscreek-Fawceter complex, 5 to 30 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 1,600 to 3,000 feet
Mean annual precipitation: 110 to 120 inches
Mean annual air temperature: 42 to 46 degrees F
Frost-free period: 90 to 120 days

Map Unit Composition

Mosscreek and similar soils: 50 percent
Fawceter and similar soils: 40 percent
Dissimilar minor component: 10 percent

Characteristics of Mosscreek

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Summits, toeslopes
Geomorphic position (three-dimensional): Mountaintops, mountain bases
Downslope shape: Linear, concave
Across-slope shape: Linear, concave
Aspect (representative): West
Aspect (range): South to north (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from igneous rock and tuff
Slope range: 5 to 30 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 19.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/Alaska huckleberry/oxalis (1909)

Typical profile
Oi—0 to 2 inches; slightly decomposed plant material
A1—2 to 15 inches; medial silt loam
A2—15 to 27 inches; medial silt loam
Bw1—27 to 57 inches; medial silt loam
Bw2—57 to 65 inches; gravelly medial loam

Characteristics of Fawceter

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Summits, footslopes
Geomorphic position (three-dimensional): Mountaintops, mountain bases
Downslope shape: Convex

Across-slope shape: Convex, linear
Aspect (representative): West
Aspect (range): South to north (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 5 to 30 percent
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 9.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/Alaska huckleberry/oxalis (1909)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 11 inches; gravelly medial silt loam
A2—11 to 29 inches; very cobbly medial silt loam
Bw1—29 to 41 inches; very cobbly medial loam
Bw2—41 to 57 inches; extremely gravelly medial loam
R—57 to 61 inches; unweathered bedrock

Dissimilar Minor Component

Killam soils
Percentage of map unit: 10 percent
Landform: Mountain slopes

162E—Mosscreek-Fawceter complex, 30 to 60 percent slopes

Map Unit Setting

General landscape: Coast Range (fig. 38)
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 1,600 to 3,000 feet
Mean annual precipitation: 110 to 120 inches
Mean annual air temperature: 42 to 46 degrees F
Frost-free period: 90 to 120 days

Map Unit Composition

Mosscreek and similar soils: 50 percent
Fawceter and similar soils: 45 percent
Dissimilar minor component: 5 percent

Characteristics of Mosscreek

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Footslopes, backslopes

Figure 38.—Mosscreek-Fawceter complex, 30 to 60 percent slopes, in the coastal fogbelt.

Geomorphic position (three-dimensional): Center third of mountain flanks, lower third of mountain flanks
Downslope shape: Concave, linear
Across-slope shape: Concave, linear
Aspect (representative): Northwest
Aspect (range): South to northeast (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from igneous rock and tuff
Slope range: 30 to 60 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 19.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/Alaska huckleberry/oxalis (1909)

Typical profile
Oi—0 to 2 inches; slightly decomposed plant material
A1—2 to 15 inches; medial silt loam

A2—15 to 27 inches; medial silt loam
Bw1—27 to 57 inches; medial silt loam
Bw2—57 to 65 inches; gravelly medial loam

Characteristics of Fawceter

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, shoulders
Geomorphic position (three-dimensional): Upper third of mountain flanks
Downslope shape: Convex
Across-slope shape: Convex, linear
Aspect (representative): Northwest
Aspect (range): South to northeast (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 30 to 60 percent
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 9.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/Alaska huckleberry/oxalis (1909)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 11 inches; gravelly medial silt loam
A2—11 to 29 inches; very cobbly medial silt loam
Bw1—29 to 41 inches; very cobbly medial loam
Bw2—41 to 57 inches; extremely gravelly medial loam
R—57 to 61 inches; unweathered bedrock

Dissimilar Minor Component

Killam soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

163F—Fawceter-Killam-Mosscreek complex, 60 to 90 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 1,600 to 3,000 feet
Mean annual precipitation: 110 to 120 inches
Mean annual air temperature: 42 to 46 degrees F
Frost-free period: 90 to 120 days

Map Unit Composition

Fawceter and similar soils: 40 percent
Killam and similar soils: 25 percent
Mosscreek and similar soils: 20 percent
Dissimilar minor components: 15 percent

Characteristics of Fawceter

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Footslopes, backslopes
Geomorphic position (three-dimensional): Center third of mountain flanks, lower third of mountain flanks
Downslope shape: Concave, convex
Across-slope shape: Concave
Aspect (representative): Northwest
Aspect (range): Southwest to northeast (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 60 to 90 percent
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 9.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7e
Plant association group: Western hemlock/Alaska huckleberry/oxalis (1909)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 11 inches; gravelly medial silt loam
A2—11 to 29 inches; very cobbly medial silt loam
Bw1—29 to 41 inches; very cobbly medial loam
Bw2—41 to 57 inches; extremely gravelly medial loam
R—57 to 61 inches; unweathered bedrock

Characteristics of Killam

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Shoulders, backslopes
Geomorphic position (three-dimensional): Upper third of mountain flanks
Downslope shape: Convex
Across-slope shape: Convex
Aspect (representative): Northwest
Aspect (range): Southwest to northeast (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 60 to 90 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained

Capacity of the most limiting soil layer to transmit water (Ksat): High
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 5.3 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7e
Plant association group: Western hemlock/Alaska huckleberry/oxalis (1909)

Typical profile
Oi—0 to 2 inches; slightly decomposed plant material
A1—2 to 14 inches; extremely gravelly medial loam
A2—14 to 23 inches; extremely gravelly medial loam
Bw—23 to 31 inches; extremely gravelly medial loam
R—31 to 35 inches; unweathered bedrock

Characteristics of Mosscreek

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, footslopes
Geomorphic position (three-dimensional): Center third of mountain flanks, lower third of mountain flanks
Downslope shape: Linear
Across-slope shape: Linear, concave
Aspect (representative): Northwest
Aspect (range): Southwest to northeast (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from igneous rock and tuff
Slope range: 60 to 90 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 19.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7e
Plant association group: Western hemlock/Alaska huckleberry/oxalis (1909)

Typical profile
Oi—0 to 2 inches; slightly decomposed plant material
A1—2 to 15 inches; medial silt loam
A2—15 to 27 inches; medial silt loam
Bw1—27 to 57 inches; medial silt loam
Bw2—57 to 65 inches; gravelly medial loam

Dissimilar Minor Components

Rock outcrop
Percentage of map unit: 10 percent
Landform: Mountain slopes

Lithic Fulvudands
Percentage of map unit: 5 percent
Landform: Mountain slopes

164F—Killam-Fawceter-Rock outcrop complex, 60 to 90 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 1,600 to 3,000 feet
Mean annual precipitation: 110 to 120 inches
Mean annual air temperature: 42 to 46 degrees F
Frost-free period: 90 to 120 days

Map Unit Composition

Killam and similar soils: 35 percent
Fawceter and similar soils: 30 percent
Rock outcrop: 20 percent
Dissimilar minor components: 15 percent

Characteristics of Killam

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, shoulders
Geomorphic position (three-dimensional): Upper third of mountain flanks
Downslope shape: Convex, linear
Across-slope shape: Convex, linear
Aspect (representative): Southeast
Aspect (range): North to west (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 60 to 90 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): High
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 5.3 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7e
Plant association group: Western hemlock/Alaska huckleberry/oxalis (1909)

Typical profile
Oi—0 to 2 inches; slightly decomposed plant material
A1—2 to 14 inches; extremely gravelly medial loam
A2—14 to 23 inches; extremely gravelly medial loam
Bw—23 to 31 inches; extremely gravelly medial loam
R—31 to 35 inches; unweathered bedrock

Characteristics of Fawceter

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, footslopes
Geomorphic position (three-dimensional): Center third of mountain flanks, lower third of mountain flanks
Downslope shape: Concave, convex, linear
Across-slope shape: Concave
Aspect (representative): Southeast
Aspect (range): North to west (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 60 to 90 percent
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 9.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7e
Plant association group: Western hemlock/Alaska huckleberry/oxalis (1909)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 11 inches; gravelly medial silt loam
A2—11 to 29 inches; very cobbly medial silt loam
Bw1—29 to 41 inches; very cobbly medial loam
Bw2—41 to 57 inches; extremely gravelly medial loam
R—57 to 61 inches; unweathered bedrock

Characteristics of Rock Outcrop

Landform: Mountain slopes
Geomorphic position (two-dimensional): Shoulders
Geomorphic position (three-dimensional): Free faces
Slope range: 60 to 90 percent
Land capability subclass (nonirrigated): 8
Typical profile: R—0 to 60 inches; unweathered bedrock

Dissimilar Minor Components

Lithic Fulvudands
Percentage of map unit: 10 percent
Landform: Mountain slopes

Mosscreek soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

166F—Rock outcrop-Killam complex, 40 to 100 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 1,600 to 3,000 feet
Mean annual precipitation: 110 to 120 inches
Mean annual air temperature: 42 to 46 degrees F
Frost-free period: 90 to 120 days

Map Unit Composition

Rock outcrop: 60 percent
Killam and similar soils: 25 percent
Dissimilar minor components: 15 percent

Characteristics of Rock Outcrop

Landform: Mountain slopes
Geomorphic position (two-dimensional): Shoulders
Geomorphic position (three-dimensional): Free faces
Slope range: 40 to 100 percent
Land capability subclass (nonirrigated): 8
Typical profile: R—0 to 60 inches; unweathered bedrock

Characteristics of Killam

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes
Geomorphic position (three-dimensional): Mountain flanks
Downslope shape: Concave, convex
Across-slope shape: Concave
Aspect (representative): South
Aspect (range): Northeast to west (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 40 to 90 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): High
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 5.3 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7e
Plant association group: Western hemlock/Alaska huckleberry/oxalis (1909)

Typical profile
Oi—0 to 2 inches; slightly decomposed plant material
A1—2 to 14 inches; extremely gravelly medial loam
A2—14 to 23 inches; extremely gravelly medial loam
Bw—23 to 31 inches; extremely gravelly medial loam
R—31 to 35 inches; unweathered bedrock

Dissimilar Minor Components

Fawceter soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Killam soils, stony surface
Percentage of map unit: 5 percent
Landform: Mountain slopes

Lithic Fulvudands
Percentage of map unit: 5 percent
Landform: Mountain slopes

170A—Logsden silt loam, 0 to 3 percent slopes

Map Unit Setting

General landscape: Coastal river valleys
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 20 to 200 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Map Unit Composition

Logsden and similar soils: 85 percent
Dissimilar minor components: 15 percent

Characteristics of Logsden

Setting
Landform: Stream terraces (fig. 39)
Geomorphic position (three-dimensional): Treads
Downslope shape: Linear, concave
Across-slope shape: Linear

Properties and qualities
Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 0 to 3 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: Rare (see Water Features table)
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 12 inches)

Interpretive groups
Land capability subclass (nonirrigated): 2c
Land capability subclass (irrigated): 2c
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 8 inches; silt loam
A—8 to 17 inches; silt loam
Bw1—17 to 37 inches; silty clay loam
Bw2—37 to 60 inches; silty clay loam

Figure 39.—Logsden silt loam, 0 to 3 percent slopes, south of the Trask River, in Tillamook Valley, in foreground. Klootchie and Necanicum soils in background.

Dissimilar Minor Components

Nehalem soils, occasional flooding
Percentage of map unit: 7 percent
Landform: Flood plains

Nestucca soils
Percentage of map unit: 4 percent
Landform: Flood plains

Brenner soils
Percentage of map unit: 2 percent
Landform: Depressions of flood plains

Gauldy soils, rare flooding
Percentage of map unit: 2 percent
Landform: Stream terraces

170B—Logsden-Nehalem silt loams, 0 to 5 percent slopes

Map Unit Setting

General landscape: Coastal river valleys
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 20 to 200 feet
Mean annual precipitation: 80 to 100 inches

Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Map Unit Composition

Logsden and similar soils: 50 percent
Nehalem, occasional flooding, and similar soils: 40 percent
Dissimilar minor components: 10 percent

Characteristics of Logsden

Setting
Landform: Stream terraces
Geomorphic position (three-dimensional): Treads
Downslope shape: Linear
Across-slope shape: Linear

Properties and qualities
Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 0 to 5 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: Rare (see Water Features table)
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 12 inches)

Interpretive groups
Land capability subclass (nonirrigated): 2e
Land capability subclass (irrigated): 3e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 8 inches; silt loam
A—8 to 17 inches; silt loam
Bw1—17 to 37 inches; silty clay loam
Bw2—37 to 60 inches; silty clay loam

Characteristics of Nehalem, Occasional Flooding

Setting
Landform: Flood plains
Geomorphic position (three-dimensional): Treads
Downslope shape: Concave
Across-slope shape: Linear

Properties and qualities
Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 0 to 3 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: Occasional (see Water Features table)
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 11.6 inches)

Interpretive groups
Land capability subclass (nonirrigated): 2w
Land capability subclass (irrigated): 2w
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 9 inches; silt loam
A—9 to 16 inches; silt loam
Bw—16 to 48 inches; silt loam
BC—48 to 60 inches; silt loam

Dissimilar Minor Components

Nestucca soils
Percentage of map unit: 7 percent
Landform: Flood plains

Brenner soils
Percentage of map unit: 2 percent
Landform: Depressions of flood plains

Gauldy soils, rare flooding
Percentage of map unit: 1 percent
Landform: Stream terraces

173B—Tillamook-Ginger medial silt loams, 0 to 7 percent slopes

Map Unit Setting

General landscape: Coastal river valleys
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 20 to 200 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Map Unit Composition

Tillamook and similar soils: 45 percent
Ginger and similar soils: 40 percent
Dissimilar minor components: 15 percent

Characteristics of Tillamook

Setting
Landform: Stream terraces
Geomorphic position (three-dimensional): Treads
Downslope shape: Linear
Across-slope shape: Linear

Properties and qualities
Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 0 to 7 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Moderately well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None

Seasonal high water table (minimum depth): About 25 to 35 inches (see Water Features table)
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 17 inches)

Interpretive groups
Land capability subclass (nonirrigated): 2e
Land capability subclass (irrigated): 3e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 8 inches; medial silt loam
A1—8 to 20 inches; medial silt loam
A2—20 to 25 inches; medial silt loam
2Bw1—25 to 35 inches; silty clay loam
2Bw2—35 to 52 inches; silty clay loam
2BC—52 to 60 inches; silty clay loam

Characteristics of Ginger

Setting
Landform: Stream terraces
Geomorphic position (three-dimensional): Treads
Downslope shape: Concave
Across-slope shape: Linear

Properties and qualities
Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 0 to 7 percent
Depth to restrictive feature: 40 to 60 inches to strongly contrasting textural stratification
Drainage class: Somewhat poorly drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately low
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): About 17 to 20 inches (see Water Features table)
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 12.7 inches)

Interpretive groups
Land capability subclass (nonirrigated): 3e
Land capability subclass (irrigated): 4e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 8 inches; medial silt loam
A—8 to 17 inches; medial silt loam
2BA—17 to 20 inches; silty clay loam
2Bg1—20 to 28 inches; silty clay
2Bg2—28 to 38 inches; silty clay
2Bg3—38 to 52 inches; silty clay
3C—52 to 60 inches; extremely gravelly sandy loam

Dissimilar Minor Components

Hebo soils
Percentage of map unit: 5 percent
Landform: Depressions of stream terraces

Knappa soils
Percentage of map unit: 5 percent
Landform: Stream terraces

Quillamook soils
Percentage of map unit: 5 percent
Landform: Stream terraces

173C—Tillamook-Ginger medial silt loams, 3 to 15 percent slopes

Map Unit Setting

General landscape: Coastal river valleys
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 20 to 200 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Map Unit Composition

Tillamook and similar soils: 45 percent
Ginger and similar soils: 40 percent
Dissimilar minor components: 15 percent

Characteristics of Tillamook

Setting
Landform: Stream terraces
Geomorphic position (three-dimensional): Treads
Downslope shape: Linear
Across-slope shape: Linear
Aspect (representative): Northwest
Aspect (range): West to north (clockwise)

Properties and qualities
Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 3 to 15 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Moderately well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): About 25 to 35 inches (see Water Features table)
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 17 inches)

Interpretive groups
Land capability subclass (nonirrigated): 3e
Land capability subclass (irrigated): 4e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 8 inches; medial silt loam
A1—8 to 20 inches; medial silt loam
A2—20 to 25 inches; medial silt loam

2Bw1—25 to 35 inches; silty clay loam
2Bw2—35 to 52 inches; silty clay loam
2BC—52 to 60 inches; silty clay loam

Characteristics of Ginger

Setting
Landform: Stream terraces
Geomorphic position (three-dimensional): Treads
Downslope shape: Concave
Across-slope shape: Linear
Aspect (representative): Northwest
Aspect (range): West to north (clockwise)

Properties and qualities
Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 3 to 15 percent
Depth to restrictive feature: 40 to 60 inches to strongly contrasting textural stratification
Drainage class: Somewhat poorly drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately low
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): About 17 to 20 inches (see Water Features table)
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 12.7 inches)

Interpretive groups
Land capability subclass (nonirrigated): 3e
Land capability subclass (irrigated): 4e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 8 inches; medial silt loam
A—8 to 17 inches; medial silt loam
2BA—17 to 20 inches; silty clay loam
2Bg1—20 to 28 inches; silty clay
2Bg2—28 to 38 inches; silty clay
2Bg3—38 to 52 inches; silty clay
3C—52 to 60 inches; extremely gravelly sandy loam

Dissimilar Minor Components

Hebo soils
Percentage of map unit: 5 percent
Landform: Depressions of stream terraces

Knappa soils
Percentage of map unit: 5 percent
Landform: Stream terraces

Quillamook soils
Percentage of map unit: 3 percent
Landform: Stream terraces

Wolfer soils
Percentage of map unit: 2 percent
Landform: Stream terraces

174C—Typic Fulvudands complex, 3 to 15 percent slopes

Map Unit Setting

General landscape: Coastal river valleys
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 100 to 600 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Map Unit Composition

Typic Fulvudands, terraces, and similar soils: 60 percent
Typic Fulvudands, fans, and similar soils: 35 percent
Dissimilar minor component: 5 percent

Characteristics of Typic Fulvudands, Terraces

Setting
Landform: Stream terraces
Geomorphic position (three-dimensional): Treads
Downslope shape: Concave
Across-slope shape: Linear
Aspect (representative): Southwest
Aspect (range): East to north (clockwise)

Properties and qualities
Parent material: Alluvium derived from igneous rock
Slope range: 3 to 15 percent
Depth to restrictive feature: 30 to 50 inches to strongly contrasting textural stratification
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 16.2 inches)

Interpretive groups
Land capability subclass (nonirrigated): 4e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 8 inches; medial loam
A2—8 to 21 inches; medial loam
Bw1—21 to 35 inches; medial loam
Bw2—35 to 45 inches; very cobbly medial loam
C1—45 to 53 inches; extremely cobbly loam
C2—53 to 61 inches; extremely cobbly fine sandy loam

Characteristics of Typic Fulvudands, Fans

Setting
Landform: Alluvial fans
Geomorphic position (three-dimensional): Risers
Downslope shape: Linear, concave
Across-slope shape: Linear, concave

Aspect (representative): Southwest
Aspect (range): East to north (clockwise)

Properties and qualities
Parent material: Debris flow deposits derived from igneous rock
Slope range: 3 to 15 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 9.5 inches)

Interpretive groups
Land capability subclass (nonirrigated): 4e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A—1 to 14 inches; gravelly medial loam
Bw1—14 to 34 inches; very gravelly medial loam
Bw2—34 to 48 inches; very gravelly medial loam
Bw3—48 to 61 inches; gravelly medial clay loam

Dissimilar Minor Component

Croquib soils
Percentage of map unit: 5 percent
Landform: Stream terraces

175D—Astoria medial silt loam, 5 to 30 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 300 to 2,000 feet
Mean annual precipitation: 80 to 120 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 210 days

Map Unit Composition

Astoria and similar soils: 80 percent
Dissimilar minor components: 20 percent

Characteristics of Astoria

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Summits, toeslopes, footslopes
Geomorphic position (three-dimensional): Mountaintops, mountain bases
Downslope shape: Convex, concave, linear
Across-slope shape: Convex, linear, concave
Aspect (representative): Northeast
Aspect (range): West to southeast (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 5 to 30 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 12.1 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/oxalis-swordfern-moist (1907)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 8 inches; medial silt loam
A2—8 to 12 inches; silty clay loam
Bw1—12 to 25 inches; silty clay loam
Bw2—25 to 37 inches; paragravelly silty clay loam
BC—37 to 51 inches; extremely paragravelly clay loam
Cr—51 to 61 inches; weathered bedrock

Dissimilar Minor Components

Preacher soils
Percentage of map unit: 10 percent
Landform: Mountain slopes

Bohannon soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Digger soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

176D—Preacher-Bohannon complex, 5 to 35 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 200 to 2,000 feet
Mean annual precipitation: 80 to 120 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 210 days

Map Unit Composition

Preacher and similar soils: 65 percent
Bohannon and similar soils: 20 percent
Dissimilar minor components: 15 percent

Characteristics of Preacher

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Summits, footslopes, toeslopes
Geomorphic position (three-dimensional): Mountaintops, mountain bases, lower third of mountain flanks
Downslope shape: Linear, concave
Across-slope shape: Linear, concave
Aspect (representative): Northwest
Aspect (range): South to northeast (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 5 to 35 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 10 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/oxalis-swordfern-moist (1907)

Typical profile
Oi—0 to 2 inches; slightly decomposed plant material
A—2 to 13 inches; medial loam
Bw1—13 to 21 inches; clay loam
Bw2—21 to 38 inches; very paragravelly clay loam
BC—38 to 52 inches; extremely paragravelly clay loam
Cr—52 to 62 inches; weathered bedrock

Characteristics of Bohannon

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Summits, shoulders, backslopes
Geomorphic position (three-dimensional): Mountaintops, upper third of mountain flanks, center third of mountain flanks
Downslope shape: Convex, linear
Across-slope shape: Convex, linear
Aspect (representative): Northwest
Aspect (range): South to northeast (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 5 to 35 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None

Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Moderate (about 8 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/oxalis-swordfern-moist (1907)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A—1 to 13 inches; medial loam
Bw1—13 to 26 inches; paragravelly clay loam
Bw2—26 to 38 inches; very paragravelly clay loam
Cr—38 to 48 inches; weathered bedrock

Dissimilar Minor Components

Astoria soils
Percentage of map unit: 10 percent
Landform: Mountain slopes

Digger soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

176E—Preacher-Bohannon complex, 35 to 60 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 200 to 2,000 feet
Mean annual precipitation: 80 to 120 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 210 days

Map Unit Composition

Preacher and similar soils: 55 percent
Bohannon and similar soils: 30 percent
Dissimilar minor components: 15 percent

Characteristics of Preacher

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Footslopes, toeslopes
Geomorphic position (three-dimensional): Lower third of mountain flanks, mountain bases
Downslope shape: Concave, linear
Across-slope shape: Concave, linear
Aspect (representative): North
Aspect (range): Southwest to southeast (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 35 to 60 percent

Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 10 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/Oregon grape-salal (1906)

Typical profile
Oi—0 to 2 inches; slightly decomposed plant material
A—2 to 13 inches; medial loam
Bw1—13 to 21 inches; clay loam
Bw2—21 to 38 inches; very paragravelly clay loam
BC—38 to 52 inches; extremely paragravelly clay loam
Cr—52 to 62 inches; weathered bedrock

Characteristics of Bohannon

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Shoulders, backslopes
Geomorphic position (three-dimensional): Upper third of mountain flanks, center third of mountain flanks
Downslope shape: Convex, linear, concave
Across-slope shape: Convex, linear
Aspect (representative): North
Aspect (range): Southwest to southeast (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 35 to 60 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Moderate (about 8 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/Oregon grape-salal (1906)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A—1 to 13 inches; medial loam
Bw1—13 to 26 inches; paragravelly clay loam
Bw2—26 to 38 inches; very paragravelly clay loam
Cr—38 to 48 inches; weathered bedrock

Dissimilar Minor Components

Astoria soils
Percentage of map unit: 10 percent
Landform: Mountain slopes

Digger soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

177B—Dystrudepts-Aquepts complex, 0 to 7 percent slopes

Map Unit Setting

General landscape: Coastal river valleys
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 500 to 800 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Map Unit Composition

Dystrudepts and similar soils: 65 percent
Aquepts and similar soils: 30 percent
Dissimilar minor components: 5 percent

Characteristics of Dystrudepts

Setting
Landform: Stream terraces
Geomorphic position (three-dimensional): Treads
Downslope shape: Concave, linear
Across-slope shape: Linear

Properties and qualities
Parent material: Alluvium derived from sedimentary rock
Slope range: 0 to 7 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Moderately well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately low
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): About 22 to 31 inches (see Water Features table)
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 11.5 inches)

Interpretive groups
Land capability subclass (nonirrigated): 2e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 6 inches; silty clay loam
A2—6 to 22 inches; silty clay loam
Bw1—22 to 31 inches; silty clay loam

Bw2—31 to 39 inches; clay
Bw3—39 to 49 inches; clay
BC—49 to 61 inches; silty clay loam

Characteristics of Aquepts

Setting
Landform: Flood plains
Geomorphic position (three-dimensional): Treads
Downslope shape: Concave
Across-slope shape: Concave

Properties and qualities
Parent material: Alluvium derived from sedimentary rock
Slope range: 0 to 3 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Poorly drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: Frequent (see Water Features table)
Ponding frequency: Frequent (see Water Features table)
Seasonal high water table (minimum depth): At the soil surface to a depth of 6 inches (see Water Features table)
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 11.4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 5w
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
A—0 to 6 inches; silt loam
Bw—6 to 18 inches; silty clay loam
C1—18 to 31 inches; silty clay
C2—31 to 51 inches; silty clay loam
C3—51 to 60 inches; clay loam

Dissimilar Minor Components

Hebo soils
Percentage of map unit: 3 percent
Landform: Depressions of stream terraces

Dystrudepts, fan
Percentage of map unit: 2 percent
Landform: Alluvial fans

178B—Fluventic Humic Dystrudepts-Dystrudepts-Aquepts complex, 0 to 5 percent slopes

Map Unit Setting

General landscape: Coastal river valleys
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 100 to 600 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Map Unit Composition

Fluventic Humic Dystrudepts and similar soils: 45 percent
Dystrudepts and similar soils: 25 percent
Aquepts and similar soils: 20 percent
Dissimilar minor components: 10 percent

Characteristics of Fluventic Humic Dystrudepts

Setting
Landform: Flood plains
Geomorphic position (three-dimensional): Treads
Downslope shape: Concave
Across-slope shape: Linear

Properties and qualities
Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 0 to 5 percent
Depth to restrictive feature: 40 to 61 inches to strongly contrasting textural stratification
Drainage class: Moderately well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: Frequent (see Water Features table)
Ponding frequency: None
Seasonal high water table (minimum depth): About 35 to 40 inches (see Water Features table)
Salinity (maximum): Not saline
Available water capacity (entire profile): Moderate (about 8.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 3w
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A—1 to 11 inches; silt loam
Bw1—11 to 35 inches; silt loam
Bw2—35 to 40 inches; loam
2C—40 to 61 inches; extremely cobbly loam

Characteristics of Dystrudepts

Setting
Landform: Stream terraces
Geomorphic position (three-dimensional): Treads
Downslope shape: Linear, concave
Across-slope shape: Linear, convex

Properties and qualities
Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 0 to 5 percent
Depth to restrictive feature: 40 to 63 inches to strongly contrasting textural stratification
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high

Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 11.8 inches)

Interpretive groups
Land capability subclass (nonirrigated): 2e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
A—0 to 12 inches; silt loam
Bw—12 to 35 inches; silt loam
BC—35 to 45 inches; loam
C—45 to 63 inches; fine sandy loam

Characteristics of Aquepts

Setting
Landform: Flood plains
Geomorphic position (three-dimensional): Treads
Downslope shape: Concave
Across-slope shape: Linear

Properties and qualities
Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 0 to 2 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Poorly drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: Frequent (see Water Features table)
Ponding frequency: Frequent (see Water Features table)
Seasonal high water table (minimum depth): At the soil surface to a depth of 8 inches (see Water Features table)
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 12 inches)

Interpretive groups
Land capability subclass (nonirrigated): 5w
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
A—0 to 8 inches; silt loam
Bw—8 to 20 inches; silty clay loam
Cg—20 to 60 inches; silty clay loam

Dissimilar Minor Components

Dystrudepts, fan
Percentage of map unit: 7 percent
Landform: Alluvial fans

Humaquepts, isomesic
Percentage of map unit: 3 percent
Landform: Depressions of stream terraces

180D—Salander medial silt loam, 5 to 30 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 50 to 1,800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Map Unit Composition

Salander and similar soils: 85 percent
Dissimilar minor components: 15 percent

Characteristics of Salander

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Summits, toeslopes
Geomorphic position (three-dimensional): Mountaintops, mountain bases
Downslope shape: Convex, linear, concave
Across-slope shape: Convex, linear, concave
Aspect (representative): West
Aspect (range): South to north (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from igneous rock
Slope range: 5 to 30 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 21.6 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Oi—0 to 2 inches; slightly decomposed plant material
A1—2 to 14 inches; medial loam
A2—14 to 25 inches; medial loam
Bw1—25 to 41 inches; medial loam
Bw2—41 to 52 inches; paragravelly medial loam
Bw3—52 to 66 inches; paragravelly medial clay loam

Dissimilar Minor Components

Necanicum soils
Percentage of map unit: 10 percent
Landform: Mountain slopes

Neskowin soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

180E—Salander-Necanicum complex, 30 to 60 percent slopes

Map Unit Setting

General landscape: Coast Range (fig. 40)
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 50 to 1,800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Map Unit Composition

Salander and similar soils: 60 percent
Necanicum and similar soils: 25 percent
Dissimilar minor components: 15 percent

Characteristics of Salander

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Footslopes, backslopes
Geomorphic position (three-dimensional): Center third of mountain flanks, lower third of mountain flanks
Downslope shape: Concave, linear
Across-slope shape: Concave, linear

Figure 40.—Area of Salander-Necanicum complex, 30 to 60 percent slopes, in middle background. The homes are in an area of Waldport fine sand, thin surface, 0 to 5 percent slopes. Area of Beaches in foreground. European beachgrass in an area of Waldport soils, thin surface, in left foreground.

Aspect (representative): Northwest
Aspect (range): South to northeast (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from igneous rock
Slope range: 30 to 60 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 21.6 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 2 inches; slightly decomposed plant material
A1—2 to 14 inches; medial loam
A2—14 to 25 inches; medial loam
Bw1—25 to 41 inches; medial loam
Bw2—41 to 52 inches; paragravelly medial loam
Bw3—52 to 66 inches; paragravelly medial clay loam

Characteristics of Necanicum

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, footslopes
Geomorphic position (three-dimensional): Upper third of mountain flanks, lower third of mountain flanks
Downslope shape: Convex, linear
Across-slope shape: Convex, linear
Aspect (representative): Northwest
Aspect (range): South to northeast (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 30 to 60 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Moderate (about 8.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 10 inches; very gravelly medial loam

A2—10 to 18 inches; very gravelly medial loam
Bw1—18 to 27 inches; very gravelly medial loam
Bw2—27 to 49 inches; extremely cobbly medial loam
Bw3—49 to 71 inches; extremely cobbly medial loam

Dissimilar Minor Components

Neskowin soils
Percentage of map unit: 10 percent
Landform: Mountain slopes

Neotsu soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

180F—Salander-Necanicum-Neskowin complex, 60 to 90 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 50 to 1,800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Map Unit Composition

Salander and similar soils: 50 percent
Necanicum and similar soils: 20 percent
Neskowin and similar soils: 15 percent
Dissimilar minor components: 15 percent

Characteristics of Salander

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Footslopes, backslopes
Geomorphic position (three-dimensional): Center third of mountain flanks, lower third of mountain flanks
Downslope shape: Concave, linear
Across-slope shape: Concave
Aspect (representative): West
Aspect (range): Southeast to northeast (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from igneous rock
Slope range: 60 to 90 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 21.6 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 2 inches; slightly decomposed plant material
A1—2 to 14 inches; medial loam
A2—14 to 25 inches; medial loam
Bw1—25 to 41 inches; medial loam
Bw2—41 to 52 inches; paragravelly medial loam
Bw3—52 to 66 inches; paragravelly medial clay loam

Characteristics of Necanicum

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, footslopes
Geomorphic position (three-dimensional): Lower third of mountain flanks, center third of mountain flanks
Downslope shape: Linear, concave
Across-slope shape: Linear, concave, convex
Aspect (representative): West
Aspect (range): Southeast to northeast (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 60 to 90 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Moderate (about 8.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 10 inches; very gravelly medial loam
A2—10 to 18 inches; very gravelly medial loam
Bw1—18 to 27 inches; very gravelly medial loam
Bw2—27 to 49 inches; extremely cobbly medial loam
Bw3—49 to 71 inches; extremely cobbly medial loam

Characteristics of Neskowin

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Shoulders, backslopes
Geomorphic position (three-dimensional): Upper third of mountain flanks
Downslope shape: Convex, linear
Across-slope shape: Convex

Aspect (representative): West
Aspect (range): Southeast to northeast (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 60 to 90 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Moderate (about 7.6 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 2 inches; slightly decomposed plant material
A—2 to 8 inches; medial loam
Bw1—8 to 15 inches; medial loam
Bw2—15 to 28 inches; gravelly medial loam
R—28 to 32 inches; unweathered bedrock

Dissimilar Minor Components

Ascar soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Rock outcrop
Percentage of map unit: 5 percent
Landform: Mountain slopes

Lithic Fulvudands
Percentage of map unit: 5 percent
Landform: Mountain slopes

181E—Neskowin-Salander medial loams, 30 to 60 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 50 to 1,800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Map Unit Composition

Neskowin and similar soils: 60 percent
Salander and similar soils: 25 percent
Dissimilar minor components: 15 percent

Characteristics of Neskowin

Setting
Landform: Mountain slopes, hillslopes
Geomorphic position (two-dimensional): Shoulders, backslopes
Geomorphic position (three-dimensional): Upper third of mountain flanks, nose slopes, side slopes
Downslope shape: Convex, linear
Across-slope shape: Convex, linear
Aspect (representative): West
Aspect (range): South to northwest (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from igneous rock
Slope range: 30 to 60 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Moderate (about 7.6 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 2 inches; slightly decomposed plant material
A—2 to 8 inches; medial loam
Bw1—8 to 15 inches; medial loam
Bw2—15 to 28 inches; gravelly medial loam
R—28 to 32 inches; unweathered bedrock

Characteristics of Salander

Setting
Landform: Mountain slopes, hillslopes
Geomorphic position (two-dimensional): Footslopes, backslopes
Geomorphic position (three-dimensional): Center third of mountain flanks, lower third of mountain flanks, side slopes, head slopes
Downslope shape: Concave
Across-slope shape: Concave, linear
Aspect (representative): West
Aspect (range): South to northwest (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from igneous rock
Slope range: 30 to 60 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 21.6 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 2 inches; slightly decomposed plant material
A1—2 to 14 inches; medial loam
A2—14 to 25 inches; medial loam
Bw1—25 to 41 inches; medial loam
Bw2—41 to 52 inches; paragravelly medial loam
Bw3—52 to 66 inches; paragravelly medial clay loam

Dissimilar Minor Components

Neotsu soils
Percentage of map unit: 5 percent
Landform: Mountain slopes, hillslopes

Rock outcrop
Percentage of map unit: 5 percent
Landform: Mountain slopes, hillslopes

Lithic Fulvudands
Percentage of map unit: 5 percent
Landform: Mountain slopes, hillslopes

181F—Neskowin-Rock outcrop-Necanicum complex, 60 to 100 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 50 to 1,800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Map Unit Composition

Neskowin and similar soils: 35 percent
Rock outcrop: 30 percent
Necanicum and similar soils: 20 percent
Dissimilar minor components: 15 percent

Characteristics of Neskowin

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, shoulders
Geomorphic position (three-dimensional): Upper third of mountain flanks
Downslope shape: Convex, linear
Across-slope shape: Convex, linear
Aspect (representative): Northwest
Aspect (range): West to north (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from igneous rock
Slope range: 60 to 100 percent

Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Moderate (about 7.6 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 2 inches; slightly decomposed plant material
A—2 to 8 inches; medial loam
Bw1—8 to 15 inches; medial loam
Bw2—15 to 28 inches; gravelly medial loam
R—28 to 32 inches; unweathered bedrock

Characteristics of Rock Outcrop

Landform: Mountain slopes
Geomorphic position (two-dimensional): Shoulders
Geomorphic position (three-dimensional): Free faces
Slope range: 60 to 100 percent
Land capability subclass (nonirrigated): 8
Typical profile: R—0 to 60 inches; unweathered bedrock

Characteristics of Necanicum

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, footslopes
Geomorphic position (three-dimensional): Center third of mountain flanks, lower third of mountain flanks
Downslope shape: Concave
Across-slope shape: Concave, convex
Aspect (representative): Northwest
Aspect (range): West to north (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 60 to 90 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Moderate (about 8.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 10 inches; very gravelly medial loam
A2—10 to 18 inches; very gravelly medial loam
Bw1—18 to 27 inches; very gravelly medial loam
Bw2—27 to 49 inches; extremely cobbly medial loam
Bw3—49 to 71 inches; extremely cobbly medial loam

Dissimilar Minor Components

Ascar soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Salander soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Lithic Fulvudands
Percentage of map unit: 5 percent
Landform: Mountain slopes

182D—Neotsu-Salander medial loams, 5 to 30 percent slopes

Map Unit Setting

General landscape: Coast Range (fig. 41)
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 50 to 1,800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Map Unit Composition

Neotsu and similar soils: 60 percent
Salander and similar soils: 30 percent
Dissimilar minor components: 10 percent

Characteristics of Neotsu

Setting
Landform: Hillslopes, mountain slopes
Geomorphic position (two-dimensional): Summits, shoulders
Geomorphic position (three-dimensional): Center third of mountain flanks, mountaintops, mountain bases, nose slopes, interfluves
Downslope shape: Linear, convex
Across-slope shape: Linear, convex
Aspect (representative): Southwest
Aspect (range): Southeast to northwest (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from igneous rock
Slope range: 5 to 30 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock

Figure 41.—Area of Neotsu-Salander medial loams, 5 to 30 percent slopes, in the Sand Lake area.

Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 10.3 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Oi—0 to 3 inches; slightly decomposed plant material
A1—3 to 9 inches; medial loam
A2—9 to 20 inches; medial loam
Bw—20 to 32 inches; cobbly medial loam
Cr—32 to 42 inches; weathered bedrock

Characteristics of Salander

Setting
Landform: Hillslopes, mountain slopes
Geomorphic position (two-dimensional): Summits, toeslopes
Geomorphic position (three-dimensional): Mountaintops, mountain bases, base slopes, interfluves
Downslope shape: Concave, linear
Across-slope shape: Concave, linear
Aspect (representative): Southwest
Aspect (range): Southeast to northwest (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from igneous rock
Slope range: 5 to 30 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 21.6 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Oi—0 to 2 inches; slightly decomposed plant material
A1—2 to 14 inches; medial loam
A2—14 to 25 inches; medial loam
Bw1—25 to 41 inches; medial loam
Bw2—41 to 52 inches; paragravelly medial loam
Bw3—52 to 66 inches; paragravelly medial clay loam

Dissimilar Minor Components

Rock outcrop
Percentage of map unit: 5 percent
Landform: Hillslopes, mountain slopes

Lithic Fulvudands
Percentage of map unit: 5 percent
Landform: Hillslopes, mountain slopes

183D—Winema-Fendall medial silt loams, 5 to 30 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 50 to 500 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Map Unit Composition

Winema and similar soils: 55 percent
Fendall and similar soils: 30 percent
Dissimilar minor components: 15 percent

Characteristics of Winema

Setting
Landform: Hillslopes
Geomorphic position (two-dimensional): Summits, toeslopes

Geomorphic position (three-dimensional): Base slopes, interfluves
Downslope shape: Linear, concave
Across-slope shape: Linear, concave
Aspect (representative): Southwest
Aspect (range): East to northwest (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 5 to 30 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 14 inches)

Interpretive groups
Land capability subclass (nonirrigated): 4e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 10 inches; medial silt loam
A—10 to 21 inches; medial silt loam
2BA—21 to 28 inches; silty clay loam
2Bw—28 to 42 inches; silty clay
2C—42 to 60 inches; very paragravelly silty clay

Characteristics of Fendall

Setting
Landform: Hillslopes
Geomorphic position (two-dimensional): Summits, shoulders
Geomorphic position (three-dimensional): Crests, nose slopes, interfluves
Downslope shape: Convex, linear
Across-slope shape: Convex, linear
Aspect (representative): Southwest
Aspect (range): East to northwest (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 5 to 30 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Moderate (about 7.4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 4e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 8 inches; medial silt loam
A—8 to 13 inches; silt loam

Bw1—13 to 17 inches; silty clay loam
Bw2—17 to 27 inches; paragravelly silty clay loam
BC—27 to 34 inches; very paragravelly silty clay loam
2Cr—34 to 44 inches; weathered bedrock

Dissimilar Minor Components

Skipanon soils
Percentage of map unit: 5 percent
Landform: Landslides on hillslopes

Templeton soils
Percentage of map unit: 5 percent
Landform: Hillslopes

Tolovana soils
Percentage of map unit: 5 percent
Landform: Hillslopes

185F—Udorthents-Rock outcrop complex, 60 to 100 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 10 to 300 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Map Unit Composition

Udorthents, steep, and similar soils: 50 percent
Rock outcrop: 30 percent
Dissimilar minor components: 20 percent

Characteristics of Udorthents, Steep

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, footslopes
Geomorphic position (three-dimensional): Mountain flanks
Downslope shape: Concave, linear
Across-slope shape: Concave, linear, convex
Aspect (representative): Northeast
Aspect (range): North to east (clockwise)

Properties and qualities
Slope range: 60 to 100 percent
Depth to restrictive feature: 10 to 40 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): High
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very low (about 2.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7e
Plant association group: Sitka spruce/salal-mesic (901)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A—1 to 4 inches; sandy loam
C—4 to 23 inches; paragravelly sandy loam
Cr—23 to 33 inches; weathered bedrock

Characteristics of Rock Outcrop

Landform: Mountain slopes
Geomorphic position (two-dimensional): Shoulders
Geomorphic position (three-dimensional): Free faces
Slope range: 60 to 100 percent
Land capability subclass (nonirrigated): 8
Typical profile: R—0 to 60 inches; unweathered bedrock

Dissimilar Minor Components

Svensen soils
Percentage of map unit: 10 percent
Landform: Mountain slopes

Lithic Udorthents
Percentage of map unit: 10 percent
Landform: Mountain slopes

190D—Mulkey medial loam, 5 to 30 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 2,800 to 3,700 feet
Mean annual precipitation: 130 to 150 inches
Mean annual air temperature: 39 to 42 degrees F
Frost-free period: 40 to 80 days

Map Unit Composition

Mulkey and similar soils: 85 percent
Dissimilar minor components: 15 percent

Characteristics of Mulkey

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Summits, shoulders
Geomorphic position (three-dimensional): Crests, interfluves, nose slopes
Downslope shape: Convex, linear
Across-slopes shape: Convex, linear
Aspect (representative): Southwest
Aspect (range): East to northwest (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from igneous rock
Slope range: 5 to 30 percent

Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): High
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 9.3 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Pacific silver fir/non-forest, other (2281)

Typical profile
A1—0 to 10 inches; medial loam
A2—10 to 19 inches; gravelly medial loam
Bw—19 to 26 inches; cobbly medial loam
R—26 to 30 inches; unweathered bedrock

Dissimilar Minor Components

Lurnick soils
Percentage of map unit: 3 percent
Landform: Mountain slopes

Newanna soils
Percentage of map unit: 3 percent
Landform: Mountain slopes

Valsetz soils
Percentage of map unit: 3 percent
Landform: Mountain slopes

Yellowstone soils
Percentage of map unit: 2 percent
Landform: Mountain slopes

Luckiamute soils
Percentage of map unit: 1 percent
Landform: Mountain slopes

Maryspeak soils
Percentage of map unit: 1 percent
Landform: Landslides on mountain slopes

Sevencedars soils
Percentage of map unit: 1 percent
Landform: Mountain slopes

Woodspoint soils
Percentage of map unit: 1 percent
Landform: Concave areas of mountain slopes

191B—Siletz-Euchre medial silt loams, 0 to 7 percent slopes

Map Unit Setting

General landscape: Coastal river valleys
Major land resource area (MLRA): 4A—Sitka Spruce Belt

Elevation: 50 to 400 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Map Unit Composition

Siletz and similar soils: 40 percent
Euchre and similar soils: 35 percent
Dissimilar minor components: 25 percent

Characteristics of Siletz

Setting
Landform: Stream terraces
Geomorphic position (three-dimensional): Treads
Downslope shape: Concave
Across-slope shape: Linear

Properties and qualities
Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 0 to 7 percent
Depth to restrictive feature: 40 to 60 inches to strongly contrasting textural stratification
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 13.7 inches)

Interpretive groups
Land capability subclass (nonirrigated): 2e
Land capability subclass (irrigated): 3e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 9 inches; medial silt loam
A—9 to 19 inches; medial silt loam
2Bw1—19 to 32 inches; silty clay loam
2Bw2—32 to 41 inches; clay loam
3C—41 to 52 inches; fine sandy loam
4C—52 to 60 inches; extremely gravelly loamy sand

Characteristics of Euchre

Setting
Landform: Stream terraces
Geomorphic position (three-dimensional): Treads
Downslope shape: Linear
Across-slope shape: Linear

Properties and qualities
Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 0 to 7 percent
Depth to restrictive feature: 36 to 60 inches to strongly contrasting textural stratification
Drainage class: Somewhat poorly drained

Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): About 14 to 24 inches (see Water Features table)
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 12.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 3e
Land capability subclass (irrigated): 4e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 8 inches; medial silt loam
A—8 to 14 inches; medial silt loam
2Bw1—14 to 24 inches; silty clay loam
2Bw2—24 to 39 inches; silty clay loam
2C—39 to 55 inches; stratified loam to fine sandy loam
3C—55 to 60 inches; extremely gravelly sandy loam

Dissimilar Minor Components

Walluski soils
Percentage of map unit: 13 percent
Landform: Stream terraces

Wolfer soils
Percentage of map unit: 7 percent
Landform: Stream terraces

Croquib soils
Percentage of map unit: 5 percent
Landform: Depressions of stream terraces

192A—Yachats very fine sandy loam, 0 to 3 percent slopes, occasional flooding

Map Unit Setting

General landscape: Coastal river valleys
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 10 to 400 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Map Unit Composition

Yachats, occasional flooding, and similar soils: 85 percent
Dissimilar minor components: 15 percent

Characteristics of Yachats, Occasional Flooding

Setting
Landform: Flood plains (fig. 42)
Geomorphic position (three-dimensional): Treads
Downslope shape: Concave, linear
Across-slope shape: Linear

Figure 42.—Pasture in an area of Yachats very fine sandy loam, 0 to 3 percent slopes, occasional flooding. The home and outbuildings are in higher lying areas because of the risk of flooding.

Properties and qualities

Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 0 to 3 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: Occasional (see Water Features table)
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Moderate (about 8.4 inches)

Interpretive groups

Land capability subclass (nonirrigated): 2w
Land capability subclass (irrigated): 2w
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile

Ap—0 to 9 inches; very fine sandy loam
A—9 to 19 inches; loam
C1—19 to 39 inches; fine sandy loam
C2—39 to 54 inches; fine sandy loam
C3—54 to 60 inches; very fine sandy loam

Dissimilar Minor Components

Brenner soils

Percentage of map unit: 5 percent
Landform: Depressions of flood plains

Nehalem soils, occasional flooding
Percentage of map unit: 5 percent
Landform: Flood plains

Nestucca soils
Percentage of map unit: 5 percent
Landform: Flood plains

303F—Ascar-Rock outcrop complex, 60 to 90 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 400 to 1,600 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Map Unit Composition

Ascar and similar soils: 50 percent
Rock outcrop: 40 percent
Dissimilar minor components: 10 percent

Characteristics of Ascar

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, footslopes
Geomorphic position (three-dimensional): Mountain flanks
Downslope shape: Concave, convex, linear
Across-slope shape: Concave, convex, linear
Aspect (representative): North
Aspect (range): West to east (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 60 to 90 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): High
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 5 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7s
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 9 inches; extremely gravelly medial loam
A2—9 to 25 inches; extremely cobbly medial loam

Bw—25 to 39 inches; extremely cobbly medial loam
R—39 to 43 inches; unweathered bedrock

Characteristics of Rock Outcrop

Landform: Mountain slopes
Geomorphic position (two-dimensional): Shoulders
Geomorphic position (three-dimensional): Free faces
Slope range: 60 to 90 percent
Land capability subclass (nonirrigated): 8
Typical profile: R—0 to 60 inches; unweathered bedrock

Dissimilar Minor Components

Necanicum soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Lithic Fulvudands
Percentage of map unit: 5 percent
Landform: Mountain slopes

307F—Braun-Scaponia silt loams, 60 to 90 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 1,000 to 2,000 feet
Mean annual precipitation: 80 to 120 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 210 days

Map Unit Composition

Braun and similar soils: 45 percent
Scaponia and similar soils: 35 percent
Dissimilar minor components: 20 percent

Characteristics of Braun

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, shoulders
Geomorphic position (three-dimensional): Upper third of mountain flanks
Downslope shape: Convex
Across-slope shape: Convex
Aspect (representative): Northeast
Aspect (range): North to east (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 60 to 90 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None

Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 5.7 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7e
Plant association group: Western hemlock/Oregon grape-salal (1906)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A—1 to 4 inches; silt loam
BA—4 to 10 inches; silt loam
Bw1—10 to 21 inches; paragravelly silt loam
Bw2—21 to 30 inches; paragravelly silt loam
Bw3—30 to 36 inches; paragravelly silt loam
Cr—36 to 46 inches; weathered bedrock

Characteristics of Scaponia

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, footslopes
Geomorphic position (three-dimensional): Center third of mountain flanks, lower third of mountain flanks
Downslope shape: Concave
Across-slope shape: Concave
Aspect (representative): Northeast
Aspect (range): North to east (clockwise)

Properties and qualities
Parent material: Colluvium derived from sedimentary rock
Slope range: 60 to 90 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Moderate (about 7.5 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7e
Plant association group: Western hemlock/Oregon grape-salal (1906)

Typical profile
Oi—0 to 2 inches; slightly decomposed plant material
A—2 to 9 inches; silt loam
Bw1—9 to 15 inches; paragravelly silt loam
Bw2—15 to 26 inches; paragravelly silt loam
BC—26 to 45 inches; very paragravelly silt loam
Cr—45 to 55 inches; weathered bedrock

Dissimilar Minor Components

Alstony soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Hembre soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Kilchis soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Rock outcrop
Percentage of map unit: 5 percent
Landform: Mountain slopes

309D—Caterl-Laderly complex, 3 to 30 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 1,800 to 3,000 feet
Mean annual precipitation: 100 to 130 inches
Mean annual air temperature: 42 to 46 degrees F
Frost-free period: 60 to 100 days

Map Unit Composition

Caterl and similar soils: 45 percent
Laderly and similar soils: 35 percent
Dissimilar minor components: 20 percent

Characteristics of Caterl

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Summits, toeslopes
Geomorphic position (three-dimensional): Mountaintops, mountain bases
Downslope shape: Linear, concave
Across-slope shape: Linear, convex, concave
Aspect (representative): East
Aspect (range): North to south (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 3 to 30 percent
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Moderate (about 7.5 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/Alaska huckleberry/oxalis (1909)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 6 inches; gravelly medial loam

A2—6 to 12 inches; very gravelly medial loam
A3—12 to 18 inches; very gravelly medial loam
Bw—18 to 35 inches; very gravelly medial loam
BC—35 to 53 inches; extremely cobbly medial loam
R—53 to 57 inches; unweathered bedrock

Characteristics of Laderly

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Summits, shoulders
Geomorphic position (three-dimensional): Mountaintops, mountain bases
Downslope shape: Convex
Across-slope shape: Convex
Aspect (representative): East
Aspect (range): North to south (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 3 to 30 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): High
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/Alaska huckleberry/oxalis (1909)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A—1 to 13 inches; very gravelly medial loam
Bw1—13 to 22 inches; very gravelly medial loam
Bw2—22 to 30 inches; extremely cobbly medial loam
R—30 to 34 inches; unweathered bedrock

Dissimilar Minor Components

Romanose soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Murtip soils
Percentage of map unit: 4 percent
Landform: Mountain slopes

McMille soils
Percentage of map unit: 3 percent
Landform: Mountain slopes

Mutt soils
Percentage of map unit: 3 percent
Landform: Mountain slopes

Rock outcrop
Percentage of map unit: 3 percent
Landform: Mountain slopes

Aquepts
Percentage of map unit: 2 percent
Landform: Mountain slopes

309E—Caterl-Laderly complex, 30 to 60 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 1,800 to 3,000 feet
Mean annual precipitation: 100 to 130 inches
Mean annual air temperature: 42 to 46 degrees F
Frost-free period: 60 to 100 days

Map Unit Composition

Caterl and similar soils: 40 percent
Laderly and similar soils: 35 percent
Dissimilar minor components: 25 percent

Characteristics of Caterl

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Footslopes, backslopes
Geomorphic position (three-dimensional): Center third of mountain flanks, lower third of mountain flanks
Downslope shape: Concave, linear
Across-slope shape: Concave
Aspect (representative): East
Aspect (range): Northwest to southwest (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 30 to 60 percent
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Moderate (about 7.5 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/Alaska huckleberry/oxalis (1909)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 6 inches; gravelly medial loam
A2—6 to 12 inches; very gravelly medial loam
A3—12 to 18 inches; very gravelly medial loam
Bw—18 to 35 inches; very gravelly medial loam

BC—35 to 53 inches; extremely cobbly medial loam
R—53 to 57 inches; unweathered bedrock

Characteristics of Laderly

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, shoulders
Geomorphic position (three-dimensional): Upper third of mountain flanks
Downslope shape: Convex, linear
Across-slope shape: Convex, linear
Aspect (representative): East
Aspect (range): Northwest to southwest (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 30 to 60 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): High
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/Alaska huckleberry/oxalis (1909)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A—1 to 13 inches; very gravelly medial loam
Bw1—13 to 22 inches; very gravelly medial loam
Bw2—22 to 30 inches; extremely cobbly medial loam
R—30 to 34 inches; unweathered bedrock

Dissimilar Minor Components

McMille soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Murtip soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Mutt soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Rock outcrop
Percentage of map unit: 5 percent
Landform: Mountain slopes

Romanose soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

314A—Croquib medial silt loam, 0 to 3 percent slopes

Map Unit Setting

General landscape: Coastal river valleys
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 20 to 300 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Map Unit Composition

Croquib and similar soils: 85 percent
Dissimilar minor components: 15 percent

Characteristics of Croquib

Setting
Landform: Stream terraces
Geomorphic position (three-dimensional): Risers
Downslope shape: Linear
Across-slope shape: Linear

Properties and qualities
Parent material: Mixed alluvium over weakly consolidated to strongly consolidated alluvium derived from igneous and sedimentary rock
Slope range: 0 to 3 percent
Depth to restrictive feature: 25 to 40 inches to strongly contrasting textural stratification
Drainage class: Poorly drained
Capacity of the most limiting soil layer to transmit water (Ksat): Low
Flooding frequency: None
Ponding frequency: Frequent (see Water Features table)
Seasonal high water table (minimum depth): At the soil surface to a depth of 2 inches (see Water Features table)
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 14.8 inches)

Interpretive groups
Land capability subclass (nonirrigated): 4w
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap1—0 to 2 inches; medial silt loam
Ap2—2 to 6 inches; medial silt loam
Bw1—6 to 13 inches; medial silty clay loam
Bw2—13 to 24 inches; medial silty clay loam
Bw3—24 to 34 inches; medial silty clay loam
2C—34 to 60 inches; extremely gravelly loam

Dissimilar Minor Components

Mues soils
Percentage of map unit: 10 percent
Landform: Stream terraces

Dystrudepts
Percentage of map unit: 3 percent
Landform: Stream terraces

Humaquepts, isomesic
Percentage of map unit: 2 percent
Landform: Stream terraces

322F—Harslow-Kilchis very gravelly medial loams, 60 to 90 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 200 to 2,200 feet
Mean annual precipitation: 80 to 120 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 210 days

Map Unit Composition

Harslow and similar soils: 50 percent
Kilchis and similar soils: 35 percent
Dissimilar minor components: 15 percent

Characteristics of Harslow

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, footslopes
Geomorphic position (three-dimensional): Center third of mountain flanks, lower third of mountain flanks
Downslope shape: Concave, linear
Across-slope shape: Concave, linear, convex
Aspect (representative): Southwest
Aspect (range): East to northwest (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 60 to 90 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 3.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7s
Plant association group: Western hemlock/Oregon grape-salal (1906)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 7 inches; extremely gravelly medial loam
A2—7 to 13 inches; extremely gravelly medial loam
Bw—13 to 22 inches; extremely gravelly medial loam
BC—22 to 37 inches; extremely gravelly medial loam
R—37 to 41 inches; unweathered bedrock

Characteristics of Kilchis

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Shoulders, backslopes
Geomorphic position (three-dimensional): Upper third of mountain flanks, center third of mountain flanks
Downslope shape: Convex, linear
Across-slope shape: Convex, linear, concave
Aspect (representative): Southwest
Aspect (range): East to northwest (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 60 to 90 percent
Depth to restrictive feature: 12 to 20 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): High
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 3 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7s
Plant association group: Western hemlock/Oregon grape-salal (1906)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A—1 to 7 inches; very gravelly medial loam
Bw—7 to 11 inches; very gravelly loam
C—11 to 19 inches; extremely cobbly loam
R—19 to 23 inches; unweathered bedrock

Dissimilar Minor Components

Rock outcrop
Percentage of map unit: 10 percent
Landform: Mountain slopes

Klistan soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

327—Dystrudepts, steep, 25 to 60 percent slopes

Map Unit Setting

General landscape: Coastal river valleys
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 10 to 300 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Map Unit Composition

Dystrudepts, steep, and similar soils: 95 percent
Dissimilar minor component: 5 percent

Characteristics of Dystrudepts, Steep

Setting
Landform: Escarpments on stream terraces
Geomorphic position (three-dimensional): Risers
Downslope shape: Linear
Across-slope shape: Linear
Aspect (representative): West
Aspect (range): Southwest to west (clockwise)

Properties and qualities
Parent material: Alluvium derived from sedimentary rock
Slope range: 25 to 60 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Moderate (about 7.3 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A—1 to 11 inches; silt loam
Bw—11 to 21 inches; silt loam
BC—21 to 29 inches; loam
C—29 to 36 inches; fine sandy loam
Cr—36 to 46 inches; weathered bedrock

Dissimilar Minor Component

Dystrudepts
Percentage of map unit: 5 percent
Landform: Stream terraces

328—Dystrudepts-Humaquepts complex, 0 to 20 percent slopes

Map Unit Setting

General landscape: Coastal river valleys
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 0 to 300 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Map Unit Composition

Dystrudepts and similar soils: 45 percent
Humaquepts, isomesic, and similar soils: 40 percent
Dissimilar minor components: 15 percent

Characteristics of Dystrudepts

Setting
Landform: Stream terraces
Geomorphic position (three-dimensional): Risers
Downslope shape: Linear
Across-slope shape: Linear
Aspect (representative): South
Aspect (range): Northeast to west (clockwise)

Properties and qualities
Parent material: Alluvium derived from sedimentary rock
Slope range: 0 to 20 percent
Depth to restrictive feature: 40 to 63 inches to strongly contrasting textural stratification
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 11.8 inches)

Interpretive groups
Land capability subclass (nonirrigated): 3e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
A—0 to 12 inches; silt loam
Bw—12 to 35 inches; silt loam
BC—35 to 45 inches; loam
C—45 to 63 inches; fine sandy loam

Characteristics of Humaquepts, Isomesic

Setting
Landform: Stream terraces
Geomorphic position (three-dimensional): Risers
Downslope shape: Linear
Across-slope shape: Linear

Properties and qualities
Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 0 to 3 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Poorly drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: Frequent (see Water Features table)
Seasonal high water table (minimum depth): At the soil surface to a depth of 11 inches (see Water Features table)
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 10.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 4w
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
A—0 to 11 inches; silty clay loam
Bw1—11 to 19 inches; silty clay loam
Bw2—19 to 30 inches; silty clay
Bw3—30 to 50 inches; silty clay
BC—50 to 60 inches; silty clay loam

Dissimilar Minor Components

Mues soils
Percentage of map unit: 10 percent
Landform: Stream terraces

Croquib soils
Percentage of map unit: 5 percent
Landform: Stream terraces

329F—Kilchis-Rock outcrop complex, 60 to 90 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 200 to 2,200 feet
Mean annual precipitation: 80 to 120 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 210 days

Map Unit Composition

Kilchis and similar soils: 45 percent
Rock outcrop: 35 percent
Dissimilar minor components: 20 percent

Characteristics of Kilchis

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, shoulders
Geomorphic position (three-dimensional): Mountain flanks
Downslope shape: Concave, linear
Across-slope shape: Concave, linear
Aspect (representative): Southwest
Aspect (range): Southeast to west (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 60 to 90 percent
Depth to restrictive feature: 12 to 20 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): High
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches

Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 3 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7s
Plant association group: Western hemlock/Oregon grape-salal (1906)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A—1 to 7 inches; very gravelly medial loam
Bw—7 to 11 inches; very gravelly loam
C—11 to 19 inches; extremely cobbly loam
R—19 to 23 inches; unweathered bedrock

Characteristics of Rock Outcrop

Landform: Mountain slopes
Geomorphic position (two-dimensional): Shoulders
Geomorphic position (three-dimensional): Free faces
Slope range: 60 to 90 percent
Land capability subclass (nonirrigated): 8
Typical profile: R—0 to 60 inches; unweathered bedrock

Dissimilar Minor Components

Harslow soils
Percentage of map unit: 15 percent
Landform: Mountain slopes

Klistan soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

338F—Laderly-Rock outcrop complex, 60 to 90 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 1,800 to 3,000 feet
Mean annual precipitation: 100 to 130 inches
Mean annual air temperature: 42 to 46 degrees F
Frost-free period: 60 to 100 days

Map Unit Composition

Laderly and similar soils: 40 percent
Rock outcrop: 35 percent
Dissimilar minor components: 25 percent

Characteristics of Laderly

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, shoulders, footslopes
Geomorphic position (three-dimensional): Mountain flanks
Downslope shape: Concave, convex, linear
Across-slope shape: Concave, linear

Aspect (representative): Southwest
Aspect (range): South to west (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 60 to 90 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): High
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7e
Plant association group: Western hemlock/Alaska huckleberry/oxalis (1909)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A—1 to 13 inches; very gravelly medial loam
Bw1—13 to 22 inches; very gravelly medial loam
Bw2—22 to 30 inches; extremely cobbly medial loam
R—30 to 34 inches; unweathered bedrock

Characteristics of Rock Outcrop

Landform: Mountain slopes
Geomorphic position (two-dimensional): Shoulders
Geomorphic position (three-dimensional): Free faces
Slope range: 60 to 90 percent
Land capability subclass (nonirrigated): 8
Typical profile: R—0 to 60 inches; unweathered bedrock

Dissimilar Minor Components

Caterl soils
Percentage of map unit: 10 percent
Landform: Mountain slopes

Romanose soils
Percentage of map unit: 10 percent
Landform: Mountain slopes

Murtip soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

342D—McMille medial silt loam, 3 to 30 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 1,800 to 3,000 feet
Mean annual precipitation: 100 to 130 inches

Mean annual air temperature: 42 to 46 degrees F
Frost-free period: 60 to 100 days

Map Unit Composition

McMille and similar soils: 85 percent
Dissimilar minor components: 15 percent

Characteristics of McMille

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Summits, toeslopes
Geomorphic position (three-dimensional): Mountaintops, mountain bases
Downslope shape: Linear, concave
Across-slope shape: Linear
Aspect (representative): Southwest
Aspect (range): Southeast to west (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 3 to 30 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 9.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/Alaska huckleberry/oxalis (1909)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 5 inches; medial silt loam
A2—5 to 14 inches; medial silt loam
Bw1—14 to 20 inches; silt loam
Bw2—20 to 32 inches; silty clay loam
Bw3—32 to 45 inches; paragravelly silty clay loam
Cr—45 to 55 inches; weathered bedrock

Dissimilar Minor Components

Mutt soils
Percentage of map unit: 10 percent
Landform: Mountain slopes

Murtip soils
Percentage of map unit: 3 percent
Landform: Mountain slopes

Caterl soils
Percentage of map unit: 2 percent
Landform: Mountain slopes

345A—Mues medial silt loam, 0 to 3 percent slopes

Map Unit Setting

General landscape: Coastal river valleys
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 20 to 300 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Map Unit Composition

Mues and similar soils: 85 percent
Dissimilar minor components: 15 percent

Characteristics of Mues

Setting
Landform: Stream terraces
Geomorphic position (three-dimensional): Risers
Downslope shape: Linear
Across-slope shape: Linear

Properties and qualities
Parent material: Silty alluvium over consolidated gravelly alluvium derived from igneous and sedimentary rock
Slope range: 0 to 3 percent
Depth to restrictive feature: 25 to 40 inches to strongly contrasting textural stratification
Drainage class: Moderately well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Low
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): About 25 to 31 inches (see Water Features table)
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 12.3 inches)

Interpretive groups
Land capability subclass (nonirrigated): 2w
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 6 inches; medial silt loam
A—6 to 11 inches; medial silt loam
AB—11 to 25 inches; medial silt loam
Bw1—25 to 31 inches; medial silt loam
Bw2—31 to 36 inches; medial silt loam
2C—36 to 60 inches; very gravelly loam

Dissimilar Minor Components

Croquib soils
Percentage of map unit: 10 percent
Landform: Stream terraces

Dystrudepts
Percentage of map unit: 3 percent
Landform: Stream terraces

Humaquepts, isomesic
Percentage of map unit: 2 percent
Landform: Stream terraces

346D—Murtip medial loam, 3 to 30 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 1,800 to 3,000 feet
Mean annual precipitation: 100 to 130 inches
Mean annual air temperature: 42 to 46 degrees F
Frost-free period: 60 to 100 days

Map Unit Composition

Murtip and similar soils: 75 percent
Dissimilar minor components: 25 percent

Characteristics of Murtip

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Summits, toeslopes
Geomorphic position (three-dimensional): Mountaintops, mountain bases
Downslope shape: Linear, concave
Across-slope shape: Linear, concave
Aspect (representative): North
Aspect (range): Northwest to northeast (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from igneous rock
Slope range: 3 to 30 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 13.5 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/Alaska huckleberry/oxalis (1909)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 7 inches; medial loam
A2—7 to 14 inches; medial loam
Bw1—14 to 24 inches; medial loam
Bw2—24 to 43 inches; medial loam

BC—43 to 50 inches; gravelly medial loam
Cr—50 to 60 inches; weathered bedrock

Dissimilar Minor Components

Caterl soils
Percentage of map unit: 10 percent
Landform: Mountain slopes

Laderly soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

McMille soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Mutt soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

347E—Murtip-Caterl complex, 30 to 60 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 1,800 to 3,000 feet
Mean annual precipitation: 100 to 130 inches
Mean annual air temperature: 42 to 46 degrees F
Frost-free period: 60 to 100 days

Map Unit Composition

Murtip and similar soils: 45 percent
Caterl and similar soils: 35 percent
Dissimilar minor components: 20 percent

Characteristics of Murtip

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Footslopes, backslopes
Geomorphic position (three-dimensional): Center third of mountain flanks, lower third of mountain flanks
Downslope shape: Linear, concave
Across-slope shape: Linear, convex, concave
Aspect (representative): Southeast
Aspect (range): North to southwest (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from igneous rock
Slope range: 30 to 60 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None

Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 13.5 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/Alaska huckleberry/oxalis (1909)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 7 inches; medial loam
A2—7 to 14 inches; medial loam
Bw1—14 to 24 inches; medial loam
Bw2—24 to 43 inches; medial loam
BC—43 to 50 inches; gravelly medial loam
Cr—50 to 60 inches; weathered bedrock

Characteristics of Caterl

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, footslopes
Geomorphic position (three-dimensional): Upper third of mountain flanks, lower third of mountain flanks
Downslope shape: Convex
Across-slope shape: Convex, linear
Aspect (representative): Southeast
Aspect (range): North to southwest (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 30 to 60 percent
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Moderate (about 7.5 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/Alaska huckleberry/oxalis (1909)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 6 inches; gravelly medial loam
A2—6 to 12 inches; very gravelly medial loam
A3—12 to 18 inches; very gravelly medial loam
Bw—18 to 35 inches; very gravelly medial loam
BC—35 to 53 inches; extremely cobbly medial loam
R—53 to 57 inches; unweathered bedrock

Dissimilar Minor Components

Laderly soils
Percentage of map unit: 10 percent
Landform: Mountain slopes

Giveout soils
Percentage of map unit: 6 percent
Landform: Mountain slopes

Romanose soils
Percentage of map unit: 4 percent
Landform: Mountain slopes

350E—Necanicum-Ascar complex, 30 to 60 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 400 to 1,600 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Map Unit Composition

Necanicum and similar soils: 45 percent
Ascar and similar soils: 30 percent
Dissimilar minor components: 25 percent

Characteristics of Necanicum

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Footslopes, backslopes
Geomorphic position (three-dimensional): Center third of mountain flanks, lower third of mountain flanks
Downslope shape: Concave, linear
Across-slope shape: Concave
Aspect (representative): North
Aspect (range): West to northeast (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 30 to 60 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Moderate (about 8.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 10 inches; very gravelly medial loam
A2—10 to 18 inches; very gravelly medial loam

Bw1—18 to 27 inches; very gravelly medial loam
Bw2—27 to 49 inches; extremely cobbly medial loam
Bw3—49 to 71 inches; extremely cobbly medial loam

Characteristics of Ascar

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Shoulders, backslopes
Geomorphic position (three-dimensional): Upper third of mountain flanks
Downslope shape: Convex, linear
Across-slope shape: Convex, linear
Aspect (representative): North
Aspect (range): West to northeast (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 30 to 60 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): High
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 5 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6s
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 9 inches; extremely gravelly medial loam
A2—9 to 25 inches; extremely cobbly medial loam
Bw—25 to 39 inches; extremely cobbly medial loam
R—39 to 43 inches; unweathered bedrock

Dissimilar Minor Components

Neskowin soils
Percentage of map unit: 13 percent
Landform: Mountain slopes

Klootchie soils
Percentage of map unit: 12 percent
Landform: Mountain slopes

356D—Rinearson silt loam, 3 to 30 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 500 to 1,600 feet
Mean annual precipitation: 80 to 120 inches

Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 210 days

Map Unit Composition

Rinearson and similar soils: 85 percent
Dissimilar minor components: 15 percent

Characteristics of Rinearson

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Summits, toeslopes
Geomorphic position (three-dimensional): Mountaintops, mountain bases
Downslope shape: Linear, concave
Across-slope shape: Linear, concave
Aspect (representative): East
Aspect (range): Northwest to south (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 3 to 30 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 10.7 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/Oregon grape-salal (1906)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 6 inches; silt loam
A2—6 to 16 inches; silt loam
Bw1—16 to 27 inches; paragravelly silty clay loam
Bw2—27 to 39 inches; paragravelly silty clay loam
BC—39 to 52 inches; very paragravelly silty clay loam
Cr—52 to 62 inches; weathered bedrock

Dissimilar Minor Components

Scaponia soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Braun soils
Percentage of map unit: 4 percent
Landform: Mountain slopes

Aquepts
Percentage of map unit: 3 percent
Landform: Flood plains

Mayger soils
Percentage of map unit: 3 percent
Landform: Mountain slopes

357E—Scaponia-Braun silt loams, 30 to 60 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 1,000 to 2,000 feet
Mean annual precipitation: 80 to 120 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 210 days

Map Unit Composition

Scaponia and similar soils: 50 percent
Braun and similar soils: 35 percent
Dissimilar minor components: 15 percent

Characteristics of Scaponia

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Footslopes, backslopes
Geomorphic position (three-dimensional): Center third of mountain flanks, lower third of mountain flanks
Downslope shape: Concave, linear
Across-slope shape: Concave, linear
Aspect (representative): East
Aspect (range): Northwest to south (clockwise)

Properties and qualities
Parent material: Colluvium derived from sedimentary rock
Slope range: 30 to 60 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Moderate (about 7.5 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/Oregon grape-salal (1906)

Typical profile
Oi—0 to 2 inches; slightly decomposed plant material
A—2 to 9 inches; silt loam
Bw1—9 to 15 inches; paragravelly silt loam
Bw2—15 to 26 inches; paragravelly silt loam

BC—26 to 45 inches; very paragravelly silt loam
Cr—45 to 55 inches; weathered bedrock

Characteristics of Braun

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Shoulders, backslopes
Geomorphic position (three-dimensional): Upper third of mountain flanks
Downslope shape: Convex, linear
Across-slope shape: Convex, linear
Aspect (representative): East
Aspect (range): Northwest to south (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 30 to 60 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 5.7 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/Oregon grape-salal (1906)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A—1 to 4 inches; silt loam
BA—4 to 10 inches; silt loam
Bw1—10 to 21 inches; paragravelly silt loam
Bw2—21 to 30 inches; paragravelly silt loam
Bw3—30 to 36 inches; paragravelly silt loam
Cr—36 to 46 inches; weathered bedrock

Dissimilar Minor Components

Hemcross soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Klistan soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Harslow soils
Percentage of map unit: 3 percent
Landform: Mountain slopes

Alstony soils
Percentage of map unit: 2 percent
Landform: Mountain slopes

358D—Skipanon gravelly medial silt loam, 3 to 30 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 50 to 1,500 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Map Unit Composition

Skipanon and similar soils: 80 percent
Dissimilar minor components: 20 percent

Characteristics of Skipanon

Setting
Landform: Hillslopes, landslide deposits on mountain slopes
Geomorphic position (two-dimensional): Summits, toeslopes
Geomorphic position (three-dimensional): Mountaintops, mountain bases, base slopes, interfluves
Downslope shape: Linear, concave
Across-slope shape: Linear, concave
Aspect (representative): Northwest
Aspect (range): Southwest to north (clockwise)

Properties and qualities
Parent material: Mass movement deposits derived from a mixture of igneous and sedimentary rock over sedimentary rock
Slope range: 3 to 30 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 10.8 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Oi—0 to 2 inches; slightly decomposed plant material
A1—2 to 7 inches; gravelly medial silt loam
A2—7 to 15 inches; gravelly silt loam
Bw1—15 to 29 inches; gravelly clay loam
Bw2—29 to 44 inches; gravelly clay loam
C—44 to 62 inches; paragravelly clay loam

Dissimilar Minor Components

Necanicum soils
Percentage of map unit: 10 percent
Landform: Mountain slopes

Templeton soils
Percentage of map unit: 7 percent
Landform: Landslides on mountain slopes

Munsoncreek soils
Percentage of map unit: 3 percent
Landform: Mountain slopes

358E—Skipanon gravelly medial silt loam, 30 to 60 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 50 to 1,500 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Map Unit Composition

Skipanon and similar soils: 80 percent
Dissimilar minor components: 20 percent

Characteristics of Skipanon

Setting
Landform: Landslide deposits on mountain slopes, hillslopes
Geomorphic position (two-dimensional): Footslopes, backslopes
Geomorphic position (three-dimensional): Mountain flanks, head slopes, side slopes
Downslope shape: Concave, linear
Across-slope shape: Concave, linear
Aspect (representative): West
Aspect (range): South to north (clockwise)

Properties and qualities
Parent material: Mass movement deposits derived from a mixture of igneous and sedimentary rock over sedimentary rock
Slope range: 30 to 60 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 10.8 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 2 inches; slightly decomposed plant material
A1—2 to 7 inches; gravelly medial silt loam
A2—7 to 15 inches; gravelly silt loam

Bw1—15 to 29 inches; gravelly clay loam
Bw2—29 to 44 inches; gravelly clay loam
C—44 to 62 inches; paragravelly clay loam

Dissimilar Minor Components

Necanicum soils
Percentage of map unit: 8 percent
Landform: Mountain slopes

Ecola soils
Percentage of map unit: 5 percent
Landform: Hillslopes, mountain slopes

Templeton soils
Percentage of map unit: 5 percent
Landform: Landslides on mountain slopes

Munsoncreek soils
Percentage of map unit: 2 percent
Landform: Mountain slopes

359D—Svensen medial loam, 3 to 30 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 20 to 500 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Map Unit Composition

Svensen and similar soils: 85 percent
Dissimilar minor components: 15 percent

Characteristics of Svensen

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Summits, toeslopes
Geomorphic position (three-dimensional): Mountaintops, mountain bases
Downslope shape: Concave, linear
Across-slope shape: Concave, linear
Aspect (representative): South
Aspect (range): Northeast to west (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 3 to 30 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): High
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 14.8 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Oi—0 to 3 inches; slightly decomposed plant material
A1—3 to 11 inches; medial loam
A2—11 to 20 inches; loam
Bw—20 to 41 inches; loam
C—41 to 63 inches; fine sandy loam

Dissimilar Minor Components

Templeton soils
Percentage of map unit: 7 percent
Landform: Landslides on mountain slopes

Skipanon soils
Percentage of map unit: 5 percent
Landform: Landslides on mountain slopes

Munsoncreek soils
Percentage of map unit: 3 percent
Landform: Mountain slopes

359E—Svensen medial loam, 30 to 60 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 20 to 500 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Map Unit Composition

Svensen and similar soils: 85 percent
Dissimilar minor components: 15 percent

Characteristics of Svensen

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Footslopes, backslopes
Geomorphic position (three-dimensional): Mountain flanks
Downslope shape: Concave, linear
Across-slope shape: Concave, linear, convex
Aspect (representative): Southeast
Aspect (range): North to west (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 30 to 60 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): High
Flooding frequency: None
Ponding frequency: None

Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 14.8 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 3 inches; slightly decomposed plant material
A1—3 to 11 inches; medial loam
A2—11 to 20 inches; loam
Bw—20 to 41 inches; loam
C—41 to 63 inches; fine sandy loam

Dissimilar Minor Components

Templeton soils
Percentage of map unit: 10 percent
Landform: Landslides on mountain slopes

Skipanon soils
Percentage of map unit: 5 percent
Landform: Landslides on mountain slopes

363D—Tolke medial silt loam, 5 to 30 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 800 to 2,000 feet
Mean annual precipitation: 80 to 120 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 210 days

Map Unit Composition

Tolke and similar soils: 80 percent
Dissimilar minor components: 20 percent

Characteristics of Tolke

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Summits, toeslopes
Geomorphic position (three-dimensional): Mountaintops, mountain bases
Downslope shape: Linear, concave
Across-slope shape: Linear, concave
Aspect (representative): Northwest
Aspect (range): South to northeast (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from tuffaceous sedimentary rock and in some areas igneous rock
Slope range: 5 to 30 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high

Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 15.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/oxalis-swordfern-moist (1907)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A—1 to 6 inches; medial silt loam
AB—6 to 10 inches; medial silt loam
Bw1—10 to 17 inches; medial silty clay loam
Bw2—17 to 26 inches; medial silty clay loam
Bw3—26 to 45 inches; medial silty clay loam
Bw4—45 to 61 inches; medial silty clay loam

Dissimilar Minor Components

Alstony soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Aquepts
Percentage of map unit: 5 percent
Landform: Mountain slopes

Braun soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Scaponia soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

371C—Walluski silt loam, 7 to 15 percent slopes

Map Unit Setting

General landscape: Coastal river valleys
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 20 to 300 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Map Unit Composition

Walluski and similar soils: 85 percent
Dissimilar minor components: 15 percent

Characteristics of Walluski

Setting
Landform: Stream terraces
Geomorphic position (three-dimensional): Risers
Downslope shape: Linear
Across-slope shape: Linear

Aspect (representative): West
Aspect (range): Southwest to northwest (clockwise)

Properties and qualities
Parent material: Mixed alluvium and/or fluviomarine deposits derived from sedimentary rock
Slope range: 7 to 15 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Moderately well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately low
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): About 27 to 36 inches (see Water Features table)
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 14 inches)

Interpretive groups
Land capability subclass (nonirrigated): 3e
Land capability subclass (irrigated): 4e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Oi—0 to 2 inches; slightly decomposed plant material
A—2 to 13 inches; medial silt loam
Bw1—13 to 27 inches; silty clay loam
Bw2—27 to 36 inches; silty clay loam
2C—36 to 62 inches; silty clay loam

Dissimilar Minor Components

Chitwood soils
Percentage of map unit: 5 percent
Landform: Stream terraces

Hebo soils
Percentage of map unit: 5 percent
Landform: Depressions of stream terraces

Knappa soils
Percentage of map unit: 3 percent
Landform: Stream terraces

Mues soils
Percentage of map unit: 2 percent
Landform: Stream terraces

403E—Astoria medial silt loam, 30 to 60 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 300 to 2,000 feet
Mean annual precipitation: 80 to 120 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 210 days

Map Unit Composition

Astoria and similar soils: 80 percent
Dissimilar minor components: 20 percent

Characteristics of Astoria

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Footslopes, backslopes
Geomorphic position (three-dimensional): Mountain flanks
Downslope shape: Convex, concave, linear
Across-slope shape: Convex, concave, linear
Aspect (representative): North
Aspect (range): West to northeast (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 30 to 60 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 12.1 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/oxalis-swordfern-moist (1907)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 8 inches; medial silt loam
A2—8 to 12 inches; silty clay loam
Bw1—12 to 25 inches; silty clay loam
Bw2—25 to 37 inches; paragravelly silty clay loam
BC—37 to 51 inches; extremely paragravelly clay loam
Cr—51 to 61 inches; weathered bedrock

Dissimilar Minor Components

Hembre soils
Percentage of map unit: 6 percent
Landform: Mountain slopes

Klickitat soils
Percentage of map unit: 4 percent
Landform: Mountain slopes

Tolke soils
Percentage of map unit: 4 percent
Landform: Mountain slopes

Formader soils
Percentage of map unit: 3 percent
Landform: Mountain slopes

Hemcross soils
Percentage of map unit: 3 percent
Landform: Mountain slopes

420E—Hembre medial silt loam, 30 to 60 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 500 to 2,200 feet
Mean annual precipitation: 80 to 120 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 210 days

Map Unit Composition

Hembre and similar soils: 85 percent
Dissimilar minor components: 15 percent

Characteristics of Hembre

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Footslopes, backslopes
Geomorphic position (three-dimensional): Mountain flanks
Downslope shape: Linear
Across-slope shape: Linear
Aspect (representative): Northwest
Aspect (range): West to northwest (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from igneous rock
Slope range: 30 to 60 percent
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 9.2 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/Oregon grape-salal (1906)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 7 inches; medial silt loam
A2—7 to 14 inches; silt loam
Bw1—14 to 19 inches; silty clay loam
Bw2—19 to 28 inches; silty clay loam
BC—28 to 43 inches; gravelly silty clay loam
R—43 to 47 inches; unweathered bedrock

Dissimilar Minor Components

Klickitat soils
Percentage of map unit: 10 percent
Landform: Mountain slopes

Astoria soils
Percentage of map unit: 3 percent
Landform: Mountain slopes

Kilchis soils
Percentage of map unit: 2 percent
Landform: Mountain slopes

420F—Hembre medial silt loam, 60 to 90 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 500 to 2,200 feet
Mean annual precipitation: 80 to 120 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 210 days

Map Unit Composition

Hembre and similar soils: 85 percent
Dissimilar minor components: 15 percent

Characteristics of Hembre

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, footslopes
Geomorphic position (three-dimensional): Mountain flanks
Downslope shape: Concave
Across-slope shape: Linear
Aspect (representative): West
Aspect (range): Southwest to northwest (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from igneous rock
Slope range: 60 to 90 percent
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 9.2 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7e
Plant association group: Western hemlock/Oregon grape-salal (1906)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 7 inches; medial silt loam
A2—7 to 14 inches; silt loam
Bw1—14 to 19 inches; silty clay loam
Bw2—19 to 28 inches; silty clay loam
BC—28 to 43 inches; gravelly silty clay loam
R—43 to 47 inches; unweathered bedrock

Dissimilar Minor Components

Klickitat soils
Percentage of map unit: 10 percent
Landform: Mountain slopes

Astoria soils
Percentage of map unit: 3 percent
Landform: Mountain slopes

Kilchis soils
Percentage of map unit: 2 percent
Landform: Mountain slopes

425E—Klickitat stony loam, 30 to 60 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 800 to 2,200 feet
Mean annual precipitation: 80 to 120 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 210 days

Map Unit Composition

Klickitat and similar soils: 80 percent
Dissimilar minor components: 20 percent

Characteristics of Klickitat

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Footslopes, backslopes
Geomorphic position (three-dimensional): Mountain flanks
Downslope shape: Concave
Across-slope shape: Concave
Aspect (representative): North
Aspect (range): Northwest to northeast (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 30 to 60 percent
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None

Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Low (about 4.2 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6s
Plant association group: Western hemlock/Oregon grape-salal (1906)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 5 inches; very cobbly medial loam
A2—5 to 13 inches; very cobbly loam
Bw1—13 to 19 inches; very cobbly loam
Bw2—19 to 42 inches; extremely cobbly loam
R—42 to 46 inches; unweathered bedrock

Dissimilar Minor Components

Hembre soils
Percentage of map unit: 10 percent
Landform: Mountain slopes

Astoria soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Kilchis soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

433D—Melby silt loam, 5 to 30 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 500 to 2,200 feet
Mean annual precipitation: 80 to 120 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 210 days

Map Unit Composition

Melby and similar soils: 80 percent
Dissimilar minor components: 20 percent

Characteristics of Melby

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Summits, toeslopes
Geomorphic position (three-dimensional): Mountaintops, mountain bases
Downslope shape: Concave
Across-slope shape: Linear, concave
Aspect (representative): Northeast
Aspect (range): Northwest to southeast (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 5 to 30 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Moderate (about 8.6 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/Oregon grape-salal (1906)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A—1 to 5 inches; silt loam
AB—5 to 10 inches; silt loam
Bw1—10 to 18 inches; silty clay loam
Bw2—18 to 26 inches; silty clay loam
Bw3—26 to 42 inches; silty clay
Bw4—42 to 47 inches; silty clay
Cr—47 to 57 inches; weathered bedrock

Dissimilar Minor Components

Goble soils
Percentage of map unit: 6 percent
Landform: Mountain slopes

Olyic soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Tolke soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Pervina soils
Percentage of map unit: 4 percent
Landform: Mountain slopes

433E—Melby silt loam, 30 to 60 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 500 to 2,200 feet
Mean annual precipitation: 80 to 120 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 210 days

Map Unit Composition

Melby and similar soils: 80 percent
Dissimilar minor components: 20 percent

Characteristics of Melby

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Footslopes, backslopes
Geomorphic position (three-dimensional): Mountain flanks
Downslope shape: Linear, concave
Across-slope shape: Linear, concave
Aspect (representative): Northeast
Aspect (range): Northwest to east (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 30 to 60 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Moderate (about 8.6 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/Oregon grape-salal (1906)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A—1 to 5 inches; silt loam
AB—5 to 10 inches; silt loam
Bw1—10 to 18 inches; silty clay loam
Bw2—18 to 26 inches; silty clay loam
Bw3—26 to 42 inches; silty clay
Bw4—42 to 47 inches; silty clay
Cr—47 to 57 inches; weathered bedrock

Dissimilar Minor Components

Goble soils
Percentage of map unit: 6 percent
Landform: Mountain slopes

Olyic soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Tolke soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Pervina soils
Percentage of map unit: 4 percent
Landform: Mountain slopes

439E—Tolke medial silt loam, 30 to 60 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 800 to 2,000 feet
Mean annual precipitation: 80 to 120 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 210 days

Map Unit Composition

Tolke and similar soils: 70 percent
Dissimilar minor components: 30 percent

Characteristics of Tolke

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Footslopes, backslopes
Geomorphic position (three-dimensional): Mountain flanks
Downslope shape: Linear, concave
Across-slope shape: Linear, concave
Aspect (representative): Southwest
Aspect (range): Southeast to west (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from tuffaceous sedimentary rock and in some areas igneous rock
Slope range: 30 to 60 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 15.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/Oregon grape-salal (1906)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A—1 to 6 inches; medial silt loam
AB—6 to 10 inches; medial silt loam
Bw1—10 to 17 inches; medial silty clay loam
Bw2—17 to 26 inches; medial silty clay loam
Bw3—26 to 45 inches; medial silty clay loam
Bw4—45 to 61 inches; medial silty clay loam

Dissimilar Minor Components

Olyic soils
Percentage of map unit: 12 percent
Landform: Mountain slopes

Melby soils
Percentage of map unit: 8 percent
Landform: Mountain slopes

Goble soils
Percentage of map unit: 6 percent
Landform: Mountain slopes

Hembre soils
Percentage of map unit: 4 percent
Landform: Mountain slopes

501D—Apt-McDuff complex, 5 to 30 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 200 to 2,200 feet
Mean annual precipitation: 80 to 120 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 210 days

Map Unit Composition

Apt and similar soils: 55 percent
McDuff and similar soils: 30 percent
Dissimilar minor components: 15 percent

Characteristics of Apt

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Summits, footslopes, toeslopes
Geomorphic position (three-dimensional): Mountaintops, lower third of mountain flanks, mountain bases
Downslope shape: Linear, concave
Across-slope shape: Linear
Aspect (range): All aspects

Properties and qualities
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 5 to 30 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 11.7 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/oxalis-swordfern-moist (1907)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A—1 to 6 inches; silty clay loam
AB—6 to 11 inches; silty clay loam
Bt1—11 to 18 inches; silty clay
Bt2—18 to 27 inches; silty clay
Bt3—27 to 37 inches; clay
Bt4—37 to 51 inches; clay
BCt—51 to 66 inches; silty clay loam

Characteristics of McDuff

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Summits, footslopes, toeslopes
Geomorphic position (three-dimensional): Mountaintops, lower third of mountain flanks, mountain bases
Downslope shape: Linear, concave
Across-slope shape: Linear
Aspect (range): All aspects

Properties and qualities
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 5 to 30 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Moderate (about 6.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/oxalis-swordfern-moist (1907)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 9 inches; silty clay loam
A2—9 to 13 inches; silty clay loam
Bt—13 to 21 inches; paragravelly clay
BCt—21 to 37 inches; very paragravelly clay
Cr—37 to 47 inches; weathered bedrock

Dissimilar Minor Components

Preacher soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Bohannon soils
Percentage of map unit: 4 percent
Landform: Mountain slopes

Slickrock soils
Percentage of map unit: 4 percent
Landform: Mountain slopes

Meda soils
Percentage of map unit: 2 percent
Landform: Mountain slopes

501E—Apt-McDuff complex, 30 to 50 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 200 to 2,200 feet
Mean annual precipitation: 80 to 120 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 210 days

Map Unit Composition

Apt and similar soils: 50 percent
McDuff and similar soils: 30 percent
Dissimilar minor components: 20 percent

Characteristics of Apt

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Summits, footslopes, toeslopes
Geomorphic position (three-dimensional): Mountaintops, lower third of mountain flanks, mountain bases
Downslope shape: Linear, concave
Across-slope shape: Linear
Aspect (representative): Northeast
Aspect (range): Southwest to south (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 30 to 50 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 11.7 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/Oregon grape-salal (1906)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A—1 to 6 inches; silty clay loam

AB—6 to 11 inches; silty clay loam
Bt1—11 to 18 inches; silty clay
Bt2—18 to 27 inches; silty clay
Bt3—27 to 37 inches; clay
Bt4—37 to 51 inches; clay
BCt—51 to 66 inches; silty clay loam

Characteristics of McDuff

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Summits, footslopes, toeslopes
Geomorphic position (three-dimensional): Mountaintops, lower third of mountain flanks, mountain bases
Downslope shape: Linear, concave
Across-slope shape: Linear
Aspect (representative): Northeast
Aspect (range): Southwest to south (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 30 to 50 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Moderate (about 6.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Western hemlock/Oregon grape-salal (1906)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 9 inches; silty clay loam
A2—9 to 13 inches; silty clay loam
Bt—13 to 21 inches; paragravelly clay
BCt—21 to 37 inches; very paragravelly clay
Cr—37 to 47 inches; weathered bedrock

Dissimilar Minor Components

Preacher soils
Percentage of map unit: 6 percent
Landform: Mountain slopes

Slickrock soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Bohannon soils
Percentage of map unit: 4 percent
Landform: Mountain slopes

Digger soils
Percentage of map unit: 3 percent
Landform: Mountain slopes

Remote soils
Percentage of map unit: 2 percent
Landform: Mountain slopes

517A—Euchre medial silt loam, 0 to 3 percent slopes

Map Unit Setting

General landscape: Coastal river valleys
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 50 to 400 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Map Unit Composition

Euchre and similar soils: 85 percent
Dissimilar minor components: 15 percent

Characteristics of Euchre

Setting
Landform: Stream terraces
Geomorphic position (three-dimensional): Risers
Downslope shape: Linear
Across-slope shape: Linear

Properties and qualities
Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 0 to 3 percent
Depth to restrictive feature: 36 to 60 inches to strongly contrasting textural stratification
Drainage class: Somewhat poorly drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): About 14 to 24 inches (see Water Features table)
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 12.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 3w
Land capability subclass (irrigated): 3w
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 8 inches; medial silt loam
A—8 to 14 inches; medial silt loam
2Bw1—14 to 24 inches; silty clay loam
2Bw2—24 to 39 inches; silty clay loam
2C—39 to 55 inches; stratified loam to fine sandy loam
3C—55 to 60 inches; extremely gravelly sandy loam

Dissimilar Minor Components

Quillamook soils
Percentage of map unit: 5 percent
Landform: Stream terraces

Siletz soils
Percentage of map unit: 5 percent
Landform: Stream terraces

Hebo soils
Percentage of map unit: 3 percent
Landform: Depressions of stream terraces

Wolfer soils
Percentage of map unit: 2 percent
Landform: Stream terraces

519D—Fendall-Winema medial silt loams, 15 to 35 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 50 to 500 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Map Unit Composition

Fendall and similar soils: 50 percent
Winema and similar soils: 30 percent
Dissimilar minor components: 20 percent

Characteristics of Fendall

Setting
Landform: Hillslopes
Geomorphic position (two-dimensional): Shoulders, summits
Geomorphic position (three-dimensional): Crests, interfluves, nose slopes
Downslope shape: Linear, convex
Across-slope shape: Linear, convex
Aspect (representative): Southwest
Aspect (range): Southeast to northwest (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 15 to 35 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Moderate (about 7.4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 4e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 8 inches; medial silt loam
A—8 to 13 inches; silt loam
Bw1—13 to 17 inches; silty clay loam
Bw2—17 to 27 inches; paragravelly silty clay loam
BC—27 to 34 inches; very paragravelly silty clay loam
2Cr—34 to 44 inches; weathered bedrock

Characteristics of Winema

Setting
Landform: Hillslopes
Geomorphic position (two-dimensional): Summits, toeslopes
Geomorphic position (three-dimensional): Base slopes, interfluves
Downslope shape: Concave, linear
Across-slope shape: Concave, linear
Aspect (representative): Southwest
Aspect (range): Southeast to northwest (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 15 to 35 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 14 inches)

Interpretive groups
Land capability subclass (nonirrigated): 4e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 10 inches; medial silt loam
A—10 to 21 inches; medial silt loam
2BA—21 to 28 inches; silty clay loam
2Bw—28 to 42 inches; silty clay
2C—42 to 60 inches; very paragravelly silty clay

Dissimilar Minor Components

Templeton soils
Percentage of map unit: 10 percent
Landform: Landslides on mountain slopes

Reedsport soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Tolovana soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

532D—Klootchie-Neotsu medial silt loams, 3 to 30 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 50 to 1,800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Map Unit Composition

Klootchie and similar soils: 45 percent
Neotsu and similar soils: 35 percent
Dissimilar minor components: 20 percent

Characteristics of Klootchie

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Summits, toeslopes
Geomorphic position (three-dimensional): Mountaintops, mountain bases
Downslope shape: Linear, concave
Across-slope shape: Linear, concave
Aspect (representative): North
Aspect (range): Southwest to east (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from igneous rock
Slope range: 3 to 30 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 21.4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 9 inches; medial silt loam
A2—9 to 19 inches; medial silt loam
Bw1—19 to 44 inches; medial silty clay loam
Bw2—44 to 68 inches; medial silty clay loam

Characteristics of Neotsu

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Shoulders, summits
Geomorphic position (three-dimensional): Mountaintops, mountain bases
Downslope shape: Convex, linear

Across-slope shape: Convex, linear
Aspect (representative): North
Aspect (range): Southwest to east (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from igneous rock
Slope range: 3 to 30 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 10.3 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Oi—0 to 3 inches; slightly decomposed plant material
A1—3 to 9 inches; medial loam
A2—9 to 20 inches; medial loam
Bw—20 to 32 inches; cobbly medial loam
Cr—32 to 42 inches; weathered bedrock

Dissimilar Minor Components

Tolovana soils
Percentage of map unit: 10 percent
Landform: Mountain slopes

Necanicum soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Reedsport soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

532E—Klootchie-Neotsu medial silt loams, 30 to 60 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 50 to 1,800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Map Unit Composition

Klootchie and similar soils: 50 percent
Neotsu and similar soils: 30 percent
Dissimilar minor components: 20 percent

Characteristics of Klootchie

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Footslopes, backslopes
Geomorphic position (three-dimensional): Center third of mountain flanks, lower third of mountain flanks
Downslope shape: Concave, linear, convex
Across-slope shape: Concave, linear
Aspect (representative): Northwest
Aspect (range): Southwest to north (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from igneous rock
Slope range: 30 to 60 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 21.4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 9 inches; medial silt loam
A2—9 to 19 inches; medial silt loam
Bw1—19 to 44 inches; medial silty clay loam
Bw2—44 to 68 inches; medial silty clay loam

Characteristics of Neotsu

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, shoulders
Geomorphic position (three-dimensional): Upper third of mountain flanks
Downslope shape: Convex, linear
Across-slope shape: Convex, linear
Aspect (representative): Northwest
Aspect (range): Southwest to north (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from igneous rock
Slope range: 30 to 60 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 10.3 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 3 inches; slightly decomposed plant material
A1—3 to 9 inches; medial loam
A2—9 to 20 inches; medial loam
Bw—20 to 32 inches; cobbly medial loam
Cr—32 to 42 inches; weathered bedrock

Dissimilar Minor Components

Tolovana soils
Percentage of map unit: 10 percent
Landform: Mountain slopes

Necanicum soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Reedsport soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

543F—Neotsu-Necanicum complex, 60 to 90 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 50 to 1,800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Map Unit Composition

Neotsu and similar soils: 40 percent
Necanicum and similar soils: 35 percent
Dissimilar minor components: 25 percent

Characteristics of Neotsu

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Shoulders, backslopes
Geomorphic position (three-dimensional): Upper third of mountain flanks
Downslope shape: Convex
Across-slope shape: Convex, linear
Aspect (representative): Southwest
Aspect (range): South to west (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from igneous rock
Slope range: 60 to 90 percent

Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 10.3 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 3 inches; slightly decomposed plant material
A1—3 to 9 inches; medial loam
A2—9 to 20 inches; medial loam
Bw—20 to 32 inches; cobbly medial loam
Cr—32 to 42 inches; weathered bedrock

Characteristics of Necanicum

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, footslopes
Geomorphic position (three-dimensional): Center third of mountain flanks, lower third of mountain flanks
Downslope shape: Concave, linear
Across-slope shape: Concave, linear
Aspect (representative): Southwest
Aspect (range): South to west (clockwise)

Properties and qualities
Parent material: Colluvium derived from igneous rock
Slope range: 60 to 90 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Moderate (about 8.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 10 inches; very gravelly medial loam
A2—10 to 18 inches; very gravelly medial loam
Bw1—18 to 27 inches; very gravelly medial loam
Bw2—27 to 49 inches; extremely cobbly medial loam
Bw3—49 to 71 inches; extremely cobbly medial loam

Dissimilar Minor Components

Klootchie soils
Percentage of map unit: 10 percent
Landform: Mountain slopes

Reedsport soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Rock outcrop
Percentage of map unit: 5 percent
Landform: Mountain slopes

Tolovana soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

552F—Reedsport-Tolovana complex, 60 to 85 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 50 to 1,800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Map Unit Composition

Reedsport and similar soils: 50 percent
Tolovana and similar soils: 30 percent
Dissimilar minor components: 20 percent

Characteristics of Reedsport

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, shoulders
Geomorphic position (three-dimensional): Upper third of mountain flanks
Downslope shape: Convex, linear
Across-slope shape: Convex, linear
Aspect (representative): East
Aspect (range): North to southeast (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 60 to 85 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None

Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 9.4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 2 inches; slightly decomposed plant material
A1—2 to 8 inches; paragravelly medial loam
A2—8 to 16 inches; paragravelly loam
Bw1—16 to 26 inches; very paragravelly loam
Bw2—26 to 34 inches; extremely paragravelly clay loam
Cr—34 to 44 inches; weathered bedrock

Characteristics of Tolovana

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, footslopes
Geomorphic position (three-dimensional): Center third of mountain flanks, lower third of mountain flanks
Downslope shape: Concave
Across-slope shape: Concave, linear
Aspect (representative): East
Aspect (range): North to southeast (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from tuffaceous sedimentary rock
Slope range: 60 to 85 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 15.4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 7e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 6 inches; medial silt loam
A2—6 to 9 inches; medial silt loam
A3—9 to 20 inches; medial silt loam
2Bw1—20 to 27 inches; silty clay loam
2Bw2—27 to 38 inches; silty clay loam
2Bw3—38 to 48 inches; paragravelly clay loam
2BC—48 to 60 inches; very paragravelly clay loam

Dissimilar Minor Components

Klootchie soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Necanicum soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Neotsu soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Rock outcrop
Percentage of map unit: 5 percent
Landform: Mountain slopes

555D—Templeton-Fendall medial silt loams, 5 to 35 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 50 to 800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Map Unit Composition

Templeton and similar soils: 55 percent
Fendall and similar soils: 30 percent
Dissimilar minor components: 15 percent

Characteristics of Templeton

Setting
Landform: Hillslopes
Geomorphic position (two-dimensional): Summits, footslopes, toeslopes
Geomorphic position (three-dimensional): Base slopes, interfluves
Downslope shape: Linear, concave
Across-slope shape: Linear, concave
Aspect (representative): Northeast
Aspect (range): West to south (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 5 to 35 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 14.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Oi—0 to 2 inches; slightly decomposed plant material
A—2 to 15 inches; medial silt loam

Bw1—15 to 28 inches; silty clay loam
Bw2—28 to 43 inches; silty clay loam
Bw3—43 to 54 inches; silty clay loam
Bw4—54 to 59 inches; paragravelly silty clay loam
Cr—59 to 69 inches; weathered bedrock

Characteristics of Fendall

Setting
Landform: Hillslopes
Geomorphic position (two-dimensional): Summits, shoulders
Geomorphic position (three-dimensional): Crests, interfluves, nose slopes
Downslope shape: Convex, linear
Across-slope shape: Convex, linear
Aspect (representative): Northeast
Aspect (range): West to south (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 5 to 35 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Moderate (about 7.4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Ap—0 to 8 inches; medial silt loam
A—8 to 13 inches; silt loam
Bw1—13 to 17 inches; silty clay loam
Bw2—17 to 27 inches; paragravelly silty clay loam
BC—27 to 34 inches; very paragravelly silty clay loam
2Cr—34 to 44 inches; weathered bedrock

Dissimilar Minor Components

Winema soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Reedsport soils
Percentage of map unit: 3 percent
Landform: Mountain slopes

Tolovana soils
Percentage of map unit: 3 percent
Landform: Mountain slopes

Klootchie soils
Percentage of map unit: 2 percent
Landform: Mountain slopes

Neotsu soils
Percentage of map unit: 2 percent
Landform: Mountain slopes

556D—Tolovana-Reedsport complex, 3 to 35 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 50 to 1,800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Map Unit Composition

Tolovana and similar soils: 45 percent
Reedsport and similar soils: 35 percent
Dissimilar minor components: 20 percent

Characteristics of Tolovana

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Summits, footslopes, toeslopes
Geomorphic position (three-dimensional): Base slopes, interfluves
Downslope shape: Linear, concave
Across-slope shape: Linear, concave
Aspect (representative): South
Aspect (range): Northeast to northwest (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from tuffaceous sedimentary rock
Slope range: 3 to 35 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 15.4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 6 inches; medial silt loam
A2—6 to 9 inches; medial silt loam
A3—9 to 20 inches; medial silt loam
2Bw1—20 to 27 inches; silty clay loam
2Bw2—27 to 38 inches; silty clay loam

2Bw3—38 to 48 inches; paragravelly clay loam
2BC—48 to 60 inches; very paragravelly clay loam

Characteristics of Reedsport

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Summits, shoulders
Geomorphic position (three-dimensional): Crests, interfluves, nose slopes
Downslope shape: Convex, linear
Across-slope shape: Convex, linear
Aspect (representative): South
Aspect (range): Northeast to northwest (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 3 to 35 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 9.4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/salmonberry-wet (903)

Typical profile
Oi—0 to 2 inches; slightly decomposed plant material
A1—2 to 8 inches; paragravelly medial loam
A2—8 to 16 inches; paragravelly loam
Bw1—16 to 26 inches; very paragravelly loam
Bw2—26 to 34 inches; extremely paragravelly clay loam
Cr—34 to 44 inches; weathered bedrock

Dissimilar Minor Components

Fendall soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Klootchie soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Templeton soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Salander soils
Percentage of map unit: 3 percent
Landform: Mountain slopes

Neotsu soils
Percentage of map unit: 2 percent
Landform: Mountain slopes

556E—Tolovana-Reedsport complex, 35 to 60 percent slopes

Map Unit Setting

General landscape: Coast Range
Major land resource area (MLRA): 4A—Sitka Spruce Belt
Elevation: 50 to 1,800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Map Unit Composition

Tolovana and similar soils: 50 percent
Reedsport and similar soils: 35 percent
Dissimilar minor components: 15 percent

Characteristics of Tolovana

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Footslopes, backslopes
Geomorphic position (three-dimensional): Center third of mountain flanks, lower third of mountain flanks
Downslope shape: Concave, linear
Across-slope shape: Concave, linear
Aspect (representative): Southeast
Aspect (range): Northwest to west (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from tuffaceous sedimentary rock
Slope range: 35 to 60 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): Very high (about 15.4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 6 inches; medial silt loam

A2—6 to 9 inches; medial silt loam
A3—9 to 20 inches; medial silt loam
2Bw1—20 to 27 inches; silty clay loam
2Bw2—27 to 38 inches; silty clay loam
2Bw3—38 to 48 inches; paragravelly clay loam
2BC—48 to 60 inches; very paragravelly clay loam

Characteristics of Reedsport

Setting
Landform: Mountain slopes
Geomorphic position (two-dimensional): Backslopes, shoulders
Geomorphic position (three-dimensional): Upper third of mountain flanks
Downslope shape: Convex, linear
Across-slope shape: Convex
Aspect (representative): Southeast
Aspect (range): Northwest to west (clockwise)

Properties and qualities
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 35 to 60 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): More than 72 inches
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 9.4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 6e
Plant association group: Sitka spruce/oxalis, swordfern-moist (902)

Typical profile
Oi—0 to 2 inches; slightly decomposed plant material
A1—2 to 8 inches; paragravelly medial loam
A2—8 to 16 inches; paragravelly loam
Bw1—16 to 26 inches; very paragravelly loam
Bw2—26 to 34 inches; extremely paragravelly clay loam
Cr—34 to 44 inches; weathered bedrock

Dissimilar Minor Components

Klootchie soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Necanicum soils
Percentage of map unit: 5 percent
Landform: Mountain slopes

Salander soils
Percentage of map unit: 3 percent
Landform: Mountain slopes

Neotsu soils
Percentage of map unit: 2 percent
Landform: Mountain slopes

611B—Dystrudepts-Aquepts-Humaquepts complex, warm, 0 to 7 percent slopes

Map Unit Setting

General landscape: Coast Range valleys
Major land resource area (MLRA): 1—Northern Pacific Coast Range, Foothills, and Valleys
Elevation: 500 to 1,900 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 120 to 260 days

Map Unit Composition

Dystrudepts, warm, and similar soils: 50 percent
Aquepts, warm, and similar soils: 30 percent
Humaquepts, mesic, and similar soils: 15 percent
Dissimilar minor component: 5 percent

Characteristics of Dystrudepts, Warm

Setting
Landform: Stream terraces
Geomorphic position (three-dimensional): Treads
Downslope shape: Linear
Across-slope shape: Linear

Properties and qualities
Parent material: Alluvium derived from sedimentary rock
Slope range: 0 to 7 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Moderately well drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately low
Flooding frequency: None
Ponding frequency: None
Seasonal high water table (minimum depth): About 22 to 31 inches (see Water Features table)
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 11.5 inches)

Interpretive groups
Land capability subclass (nonirrigated): 2e
Plant association group: Western hemlock/oxalis-swordfern-moist (1907)

Typical profile
Oi—0 to 1 inch; slightly decomposed plant material
A1—1 to 6 inches; silty clay loam
A2—6 to 22 inches; silty clay loam
Bw1—22 to 31 inches; silty clay loam
Bw2—31 to 39 inches; clay
Bw3—39 to 49 inches; clay
BC—49 to 61 inches; silty clay loam

Characteristics of Aquepts, Warm

Setting
Landform: Flood plains
Geomorphic position (three-dimensional): Treads

Downslope shape: Concave
Across-slope shape: Linear

Properties and qualities
Parent material: Alluvium derived from sedimentary rock
Slope range: 0 to 3 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Poorly drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: Frequent (see Water Features table)
Ponding frequency: Frequent (see Water Features table)
Seasonal high water table (minimum depth): At the soil surface to a depth of 6 inches (see Water Features table)
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 11.4 inches)

Interpretive groups
Land capability subclass (nonirrigated): 5w
Plant association group: Western hemlock/salmonberry-wet (1908)

Typical profile
A—0 to 6 inches; silt loam
Bw—6 to 18 inches; silty clay loam
C1—18 to 31 inches; silty clay
C2—31 to 51 inches; silty clay loam
C3—51 to 60 inches; clay loam

Characteristics of Humaquepts, Mesic

Setting
Landform: Stream terraces
Geomorphic position (three-dimensional): Treads
Downslope shape: Concave
Across-slope shape: Concave

Properties and qualities
Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 0 to 3 percent
Depth to restrictive feature: None within a depth of 60 inches
Drainage class: Poorly drained
Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high
Flooding frequency: None
Ponding frequency: Frequent (see Water Features table)
Seasonal high water table (minimum depth): At the soil surface to a depth of 11 inches (see Water Features table)
Salinity (maximum): Not saline
Available water capacity (entire profile): High (about 10.9 inches)

Interpretive groups
Land capability subclass (nonirrigated): 4w
Plant association group: Western hemlock/salmonberry-wet (1908)

Typical profile
A—0 to 11 inches; silty clay loam
Bw1—11 to 19 inches; silty clay loam
Bw2—19 to 30 inches; silty clay
Bw3—30 to 50 inches; silty clay
BC—50 to 60 inches; silty clay loam

Dissimilar Minor Component

Dystrudepts soils, warm
Percentage of map unit: 5 percent
Landform: Alluvial fans

W—Water

Major land resource areas (MLRAs): 1—Northern Pacific Coast Range, Foothills, and Valleys; 4A—Sitka Spruce Belt
Water: 100 percent
Slope range: 0 to 1 percent

Use and Management of the Soils

This soil survey is an inventory and evaluation of the soils in the survey area. It can be used to adjust land uses to the limitations and potentials of natural resources and the environment. Also, it can help to prevent soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavioral characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis in predicting soil behavior.

Information in this section can be used to plan the use and management of soils for crops and pasture; as rangeland and forestland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities; for agricultural waste management; and as wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of gravel, sand, reclamation material, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

Interpretive Ratings

The interpretive tables in this survey rate the soils in the survey area for various uses. Many of the tables identify the limitations that affect specified uses and indicate the severity of those limitations. The ratings in these tables are both verbal and numerical.

Rating Class Terms

Rating classes are expressed in the tables in terms that indicate the extent to which the soils are limited by all of the soil features that affect a specified use or in terms that indicate the suitability of the soils for the use. Thus, the tables may show limitation classes or suitability classes. Terms for the limitation classes are *not limited, somewhat limited,* and *very limited*. The suitability ratings are expressed as *well suited, moderately suited, poorly suited,* and *unsuited* or as *good, fair,* and *poor*.

Numerical Ratings

Numerical ratings in the tables indicate the relative severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate

gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation. The limitations appear in order from the most limiting to the least limiting. Thus, if more than one limitation is identified, the most severe limitation is listed first and the least severe one is listed last.

Crops and Pasture

General management needed for crops and pasture is suggested in this section. The estimated yields of the main crops and pasture plants are listed, and the system of land capability classification used by the Natural Resources Conservation Service is explained.

Planners of management systems for individual fields or farms should consider the detailed information given in the description of each soil under the heading “Detailed Soil Map Units.” Specific information can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

Yields per Acre

The average yields per acre, shown in table 5, are those that can be expected of the principal crops under a high level of management. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors. The land capability classification of map units in the survey area also is shown in the table.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations also are considered.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green manure crops; and harvesting that ensures the smallest possible loss.

For yields of irrigated crops, it is assumed that the irrigation system is adapted to the soils and to the crops grown, that good-quality irrigation water is uniformly applied as needed, and that tillage is kept to a minimum.

Pasture yields are expressed in terms of animal unit months. An animal unit month (AUM) is the amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in the table are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Natural Resources Conservation Service or of the Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

Pasture Management

Scott Robbins, Natural Resources Conservation Service, and Troy Downing, Oregon State University, prepared this section.

The majority of the agricultural land in Tillamook County is dedicated to the production of pasture and grass silage for use as forage. The county has been a major dairy-producing area for more than 100 years, and techniques and methods for intensively managing livestock and forage production systems have been developed or improved. Most of the soils that have been used in the dairy system are high in content of organic matter (average of more than 6 percent), have good soil tilth, and are fertile. The soils throughout the entire region are acidic. Typically, the soils used for forage production and manure application as part of a dairy operation are managed to achieve a pH of 5.3 to 6.0.

The climate of Tillamook County presents some unique challenges for year-round pasture management and use. The climate is typified by cool, wet winters and cool, moist summers. The average annual rainfall is about 90 inches. In most years, 75 percent of the precipitation occurs between November 1 and May 31. Normally, little rain falls in June through September. Grasses grow slowly in winter. Although soil moisture is adequate, the temperature is too cool for rapid growth. Throughout much of winter, the soils in nearly level areas are saturated with water. Grazing when the soils are saturated can result in soil compaction, damage to plants, and muddy conditions. During the drier summer months, forage growth is limited by a lack of moisture unless irrigation is used or a localized condition such as a high water table is present (fig. 43). As a result of the

Figure 43.—Irrigation pods in an area of Quillamook complex, 0 to 7 percent slopes.

marine climatic conditions, moisture is received from the low clouds and fog that are common in summer.

Most fields are planted to perennial, cool-season grasses and legumes. The mild coastal climate is well suited to cool-season grass production for much of the year. Improved pastures generally include forage species such as tall fescue, perennial ryegrass, orchardgrass, and white clover. Subclover, trefoil, red clover, annual ryegrass, and meadow foxtail are grown in smaller amounts. Species grown for hay include orchardgrass, tall fescue, perennial ryegrass, annual ryegrass, and various clovers. Unimproved pastures commonly support less productive plants such as bentgrass, common velvetgrass, meadow foxtail, white clover, shrubs such as Himalayan blackberry, and a variety of weeds.

Because of the climate, livestock production is well suited to rotational grazing of pastures in mid-spring to late in spring when high-quality forage plants are actively growing and the soils are not saturated (fig. 44). The majority of the pasture is harvested through high-intensity rotational grazing. This system uses a series of access lanes and small paddocks to move cattle and to harvest pasture. Typically, cattle are moved to a new paddock every 12 hours after each milking. In areas where the acreage is not limited, another common management practice is to use a stocking rate based on summer forage production and harvest the excess in spring as haylage, silage, or hay. Haylage includes the forage plants such as grasses and clovers, and silage includes corn or small grain such as wheat and oats. Both are baled at a higher moisture content than regular hay and stored in a sealed plastic wrap. Because of the high moisture content and air-tight environment, the material ferments and is preserved by acid production during fermentation, thus maintaining high value as feed for an extended period of time. Supplemental forage such as hay commonly is used in winter and during periods of low growth in summer.

Figure 44.—Dairy cattle grazing in an area of Tillamook-Ginger medial silt loams, 0 to 7 percent slopes.

Pasture Management Concerns

Among the natural resource concerns for pasture management in the county are conservation of the soil resources, nutrient (or agricultural waste) management, control of invasive shrubs and reed canarygrass, access to water by livestock, and the variability of the microclimates.

The soils have many characteristics that affect their behavior and response to practices used in forage and nutrient management. Understanding the characteristics of the soils and using the best suited management practices will help to maintain or improve the health and productivity of the soils.

Soils become compacted when livestock use and equipment use occur during periods when the soils are wet. Compaction degrades soil structure, decreases the infiltration of water, reduces the soil water-holding capacity, and reduces nutrient adsorption and exchange. Under these conditions, forage production is reduced, the potential for surface runoff and the risk of erosion are increased, and the quality of water can be reduced. Proper management practices can help to minimize compaction or reclaim compacted areas, thereby maintaining or improving soil health, water quality, and forage productivity.

The Brenner, Coquille, Gauldy, Nehalem, Nestucca, and Yachats soils are subject to flooding (fig. 45). To maintain or improve soil health and water quality, good management practices are needed during periods of flooding to protect the soils from erosion or loss of nutrients applied to the surface.

Drainage is a concern on several soils in the survey area. High rainfall and a seasonal high water table restrict the varieties of grasses that can be grown and the use of some management practices. Soils that have a seasonal high water table include those of the Brenner, Chitwood, Coquille, Euchre, Ginger, Hebo, and Nestucca

Figure 45.—Inundation by water from manure gun in an area of Coquille silt loam, 0 to 1 percent slopes.

series. In areas where drainage systems have been installed, the season of use is extended, productivity is improved, and a wider variety of pasture grasses can be planted (fig. 46).

Nutrient (or agricultural waste) management is a major concern in Tillamook County, especially during the rainy season which can be as long as 9 months or more in many years. This concern is further discussed in the section “Agricultural Waste Management.”

Invasive shrubs, such as Himalayan blackberry and scotch broom, are in fencerows, idle fields, drainageways, and streambanks and in other unmanaged areas. These invasive plants encroach onto pastures. Livestock access to watercourses can create water quality concerns. Establishing watering facilities accessible to livestock away from bodies of water and fencing livestock out of areas near bodies of water are effective management practices (fig. 47). Reed canarygrass, which commonly is in drainageways and wet pastures throughout the county, is also a concern. This plant has the potential to be a desirable forage grass if it is properly managed; however, it is difficult to control and therefore considered undesirable. The variability of the microclimates throughout the county results in a variation in the growth of grasses, sometimes from one field to another on the same farm. These microclimates can make it difficult to effectively manage pastures.

Several Oregon State University publications that provide additional information on pasture management are available at http://extension.oregonstate.edu/catalog/ (navigate to Agriculture, to Pastures and Forages, and download publications EC-1558, EM-8412-E, EM-8585-E, and EM-8801). Washington State University has a publication on pasture renovation in Oregon and Washington that can be accessed at http://cru.cahe.wsu.edu/CEPublications/eb1870/eb1870.pdf. Weed management should be ongoing in areas used for hay production.

Figure 46.—Improved varieties of pasture grasses in an area of Chitwood-Hebo complex, 0 to 5 percent slopes.

Figure 47.—Watering facilities for grazing livestock.

Large-Acreage Farms

The primary goal of large-acreage farms is to produce income from forage production. Although the pastures of large-acreage operations typically are grazed by dairy cattle, forage production can be used exclusively for hay or for a combination of both hay and grazing. The goal is to produce the maximum amount of forage while keeping production costs low. The following basic principles apply to the use and management of pastures on large-acreage farms:

- Pastures should be fertilized according to guidance based on soil tests. (http://extension.oregonstate.edu/catalog/ [navigate to Agriculture, to Fertilizer Guides, and download publications EC-1478, EM-8585-E, EM-8852-E, EM8954-E, and FG 63-E])
- Multiple pastures should be used to allow for a rotation of grazing and resting each pasture (fig. 48). Four pastures for each group of animals is the minimum number needed for a rotation; however, additional subdivisions facilitate better management of the grasses and legumes. Multiple pastures are created by installing permanent or temporary fencing. Simple 1- or 2-wire electric fences or multiple-strand permanent fences can be used.
- Adequate watering facilities are needed in each pasture.
- Pastures should be grazed only when the height of the primary forage plants averages more than 3 inches.
- Pastures should not be grazed when the soil is saturated.
- Weeds that are noxious or are crowding out the desirable forage plants should be controlled.
- If irrigation is needed, an irrigation water management (IWM) plan should be used so that the correct amount of water is applied. This plan facilitates the scheduling of irrigation for efficient use of water, optimum plant growth, and optimum use of nutrients.

Figure 48.—Multiple pastures are available for various uses in a rotation pasture management system.

Pasture Management Recommendations

One of the most critical periods for pastures and hayfields is autumn. Management decisions made at this time affect the ability of the plants to winter over. They determine when new growth is initiated in spring and how much forage will be produced during the entire season. Overgrazing or excessive harvesting of forage in fall inhibits the rebuilding of the root system and the formation of shoots for growth in spring. Leaving taller stubble also inhibits germination of weeds and thus reduces the abundance of weeds the following year.

Grazing in winter can result in compaction of the soil or damage to forage plants from trampling. Compaction on some soils reduces yields and decreases water infiltration. Damage to or total destruction of plants can more easily occur in winter when the soils are saturated. Grazing when the soils are wet causes fields to become "pocked" or "hoof-imprinted," making the surface difficult to traverse by livestock or equipment. Grazing of wet soils in winter also increases stress on livestock, which can negatively affect their body condition and/or health.

Pasture management in winter is primarily concerned with providing as much rest as possible on as many pastures as possible. The result is that the pastures are in good condition in spring when temperatures rise and plants begin to grow. Dairy producers in Tillamook County commonly keep livestock in barns during the rainy season (fig. 49). The livestock are fed daily with hay, silage, and haylage that commonly is combined with imported feed to meet nutritional requirements.

Manure must be managed to maintain water quality and improve plant nutrients. Spreading of manure solids or irrigating with liquid manure help to maintain the fertility of the soils; however, care must be taken to avoid pollution of surface and ground water. Manure should be applied only in conjunction with an approved nutrient management plan. Soil and manure tests are needed to determine the proper

Figure 49.—Dairy feeding operation.

application rate. Over time, the application of manure can result in an overabundance of nitrogen, phosphorus, and potassium in the soils and in more acidic soils.

”Sacrifice” pastures (also called a turnout, corral, heavy use area, or paddock) can also be used to facilitate the protection of pastures in winter. Some producers keep livestock on a designated “sacrifice” or “winter” pasture throughout winter (fig. 50). Although this practice is harmful to the forage plants in these pastures, the primary purpose is to reduce the grazing pressure on other pastures that are saturated and subject to damage or destruction if grazed. Sacrificing one pasture to protect others is justified in the overall management plan.

In winter, some producers allow a small number of livestock to graze on a large number of acres to reduce the damage to the pasture. Although this does reduce the risk of compaction, it also promotes selective grazing, where livestock repeatedly use the more palatable plants until they become weakened and are eventually replaced by less desirable species. This practice can reduce the amount of desirable forage available and should be carefully managed.

Spring is the primary period of plant growth during the year. Pasture rotation is important to maximize use of the plants. The ideal rotation allows for livestock to begin grazing on a pasture when the grass is about 7 inches tall and graze for 3 or 4 days or until a minimum stubble height of 3 inches is reached. The pasture is then rested until the height of the grass once again reaches 7 to 8 inches. When the grass is growing rapidly, this can take as little as 7 to 10 days. Later in spring, a regrowth period of 21 days may be more typical. The long rest periods between the short periods of grazing are important for maintaining the health and vigor of the forage plants.

Pasture management in summer includes resting pastures until proper regrowth occurs, which typically is in September; irrigating the pastures; rationing the forage produced in spring; planting drought-tolerant annuals such as Sudan grasses; planting drought-tolerant perennial forage plants such as chicory and plantain; and grazing pastures that are wet in spring but produce forage during the dry period in summer.

Figure 50.—"Sacrifice" pasture.

Use of "sacrifice" pastures is as essential in summer as it is in winter to protect dormant forage plants from hoof damage. Nonirrigated pastures should not be grazed once the stubble is reduced to a height 3 inches because dormant plants store nutrients in the stem just above the ground. If irrigation is used in summer, the following practices should be considered.

- Start irrigating early enough to keep plants in an active state of growth, which may be as early as May during a dry spring.
- Keep livestock off of pastures during irrigation to prevent compaction of the soil and damage to the irrigation equipment.
- Wait at least 3 days after periods of irrigation for the soil to dry out and firm up before grazing.
- Use an irrigation water management (IWM) plan. Apply an adequate but not excessive amount of water frequently enough to obtain optimum production at the lowest cost.
- Apply fertilizer if needed to justify the expense and effort of irrigation.

Hay Production Recommendations

To produce high-quality hay, fields should be cut when forage plants are in the bud stage, before seed heads are visible. Leaving the stubble about 4 inches high facilitates curing, speeds up regrowth, and improves the vigor of the plants. A hayfield should not be grazed after haying until adequate regrowth has taken place (about 7 inches high). Livestock should be removed from the field when the height of the stubble is an average of 3 inches.

Nonirrigated hayfields commonly are grazed in spring to delay the maturity of the hay plants until the soil dries out and firms up. The fields are then cut for hay and the regrowth is grazed.

Hay production is complicated due to the occurrence of rain in May and June, when the plants are maturing and need to be harvested to obtain high-quality feed. Despite this, hay can be harvested successfully (fig. 51). Washington State University Cooperative Extension Service has developed guidance for harvesting high-quality hay in western Oregon (http://cru.cahe.wsu.edu/CEPublications/eb1897/eb1897.pdf).

The forage can be cut during the wet period in May and June as haylage, which is a high-quality product similar to hay and silage. After the rainy period subsides, the regrowth is harvested as regular low-moisture hay.

If irrigation is included in the management of hay, the following practices should be considered.

- Start irrigation early enough in spring to keep the forage plants in an active state of growth.
- Use an irrigation water management (IWM) plan.
- Apply fertilizer on hayfields to optimize plant growth and justify the expense and effort of irrigation.

Small-Acreage Farms

Small-acreage farms are those that have pastures that are of limited size and are not managed as the primary source of income. Small-acreage farms may generate income, but typically not enough to support a family. A large number of such farms are in Tillamook County. They are used as pasture for horses, llamas, cattle, sheep, goats, alpacas, vicunas, and other livestock. They are on a variety of landscapes and include a variety of soil types.

If a small-acreage farm can supply the forage needs of livestock for most of the year, pasture management should be similar to that of a larger acreage farm. This section discusses pasture use and management if the forage and nutrition for livestock

Figure 51.—Harvesting hay for silage in an area of Nehalem silt loam, 0 to 3 percent slopes. Templeton and Ecola soils are in background.

is primarily provided by hand-fed forage and the pastures provide supplemental forage or are used as exercise areas.

For smaller farms, the primary goals in pasture management are to promote the health and vigor of the forage plants and to protect them from overuse and destruction. Other goals are maintaining the appearance of the pastures for aesthetic value, keeping soil erosion to a minimum, and maintaining water quality. General pasture management practices for small-acreage farms are as follows:

- Use a “sacrifice” area for livestock. This area is used most of the time to reduce grazing pressure and allow for rest of the pastures so that the forage plants can grow. Some producers keep livestock on a designated “sacrifice” or “winter” pasture throughout winter. If possible, this should be a well drained area that has little, if any, potential for run-on from rainfall. In addition, the area should be covered with wood chips, sand, or gravel and have a filter strip of grass downslope. Manure from this area should be collected regularly, stored under cover, and used in the operation of the small-acreage farm.
- An exercise area is needed. This area should be used for only short periods of time (hours) based on the height of the grass. It should be used only when the soils in the area are not saturated.
- Grazing should be discontinued when the height of the grass is reduced to an average of 3 inches.
- Pastures should be subdivided into more units for better protection of the forage grasses.
- Noxious weeds should be controlled by hand or by mechanical or chemical means.
- Pastures should be fertilized based on soil tests.
- Grazing should be limited or excluded in areas near streams or creeks, areas that provide aesthetic value, areas where water quality is a concern, areas used by wildlife, or areas where rare plants grow.
- Irrigation may not be cost effective for small-acreage farms since forage production is not the primary objective. Irrigation improves the appearance of pastures by keeping them green, helps to increase the health and vigor of the forage plants, and promotes the growth of some supplemental forage for livestock.

Further information on management of both large- and small-acreage farms is available on the Oregon State University, Agricultural Extension Service, website (http://extension.oregonstate.edu/catalog/).

Pasture Yield Information

Table 5 shows the average yields per acre of pasture and grass silage for the soils used as pasture and for forage production or have the potential for these uses. In general, yields can be improved by good management and proper fertilization.

The agricultural areas in the survey area were mapped at an Order 2 level; therefore, the average size of the areas to be managed is about 10 acres and the maximum size of the delineations for dissimilar, or contrasting, soils is about 3 acres. For many of the small-acreage farms, the information in this section is best used as a guide for a general understanding of pasture management.

Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that

would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for rangeland, for forestland, or for engineering purposes.

In the capability system, soils are generally grouped at three levels—capability class, subclass, and unit (USDA, 1961). Only class and subclass are used in this survey.

Capability classes, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class 1 soils have slight limitations that restrict their use.

Class 2 soils have moderate limitations that restrict the choice of plants or that require moderate conservation practices.

Class 3 soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both.

Class 4 soils have very severe limitations that restrict the choice of plants or that require very careful management, or both.

Class 5 soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

Class 8 soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.

Capability subclasses are soil groups within one class. They are designated by adding a small letter, *e, w, s,* or *c,* to the class numeral, for example, 2e. The letter *e* shows that the main hazard is the risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c,* used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

In class 1 there are no subclasses because the soils of this class have few limitations. Class 5 contains only the subclasses indicated by *w, s,* or *c* because the soils in class 5 are subject to little or no erosion. They have other limitations that restrict their use to pasture, rangeland, forestland, wildlife habitat, or recreation.

The capability classification for nonirrigated areas and irrigated areas, where applicable, of the soils in this survey area is given in the section "Detailed Soil Map Units" and in table 5.

Prime and Statewide Important Farmland

In an effort to identify the extent and location of important farmlands, the Natural Resources Conservation Service, in cooperation with other interested Federal, State, and local government organizations, has inventoried land that can be used for the production of the Nation's food supply.

Prime farmland is of major importance in meeting the Nation's short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as

well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil quality, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. The water supply is dependable and of adequate quality. Prime farmland is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 6 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

In Tillamook County and other coastal areas, the many days of fog and excessive low cloud cover result in a low evapotranspiration rate and a low number of heat units available for the ripening or maturing of many crops. Although the growing season is considered to be long and the content of soil moisture is adequate to support the growth of crops, few crops can be economically grown and harvested because of the number of heat units needed for the maturation of most crops. Because of this, the soils in the county and in other coastal areas do not meet the criteria for prime farmland.

In some areas, land that does not meet the criteria for prime farmland is considered to be *farmland of statewide importance* for the production of food, feed, fiber, forage, and oilseed crops. The criteria for defining and delineating farmland of statewide importance are determined by the appropriate State agencies. Generally, this land includes areas of soils that nearly meet the requirements for prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods. Some areas may produce as high a yield as prime farmland if conditions are favorable. Farmland of statewide importance may include tracts of land that have been designated for agriculture by State law.

Table 6 lists the map units in the survey area that are considered statewide important farmland. This list does not constitute a recommendation for a particular land use.

Forestland Productivity and Management

By Craig Ziegler, Natural Resources Conservation Service.

About 92 percent of the land in Tillamook County is forested. The largest forest landowner is the State of Oregon, with the Tillamook State Forest making up about 50 percent of the total acreage of the county. This State forest is managed by the Oregon Department of Forestry as a result of the catastrophic fires, called the Tillamook Burn, that occurred in 1933 through 1951 (figs. 52, 53, and 54). About 20 percent of the forestland is managed by the Forest Service and Bureau of Land Management, and about 22 percent is privately owned, mainly by industrial timber companies.

The Tillamook Burn was a catastrophic series of large forest fires in the northern Oregon Coast Range about 50 miles west of Portland. The fires began in 1933 and occurred at 6-year intervals through 1951, burning a total of 355,000 acres, or 554 square miles. The largest of the four fires, and the most devastating, occurred

in Gales Creek Canyon, west of the town of Forest Grove, on August 14, 1933. Salvage operations were immediately begun to harvest useable portions of the burned landscape. The steep slopes of the surrounding Coast Range were mostly inaccessible because the Wilson River Highway (Oregon Highway 6) and Sunset Highway (U.S. Highway 26) did not yet exist. The 1933 fire swept across the Coast

Figure 52.—Tillamook Burn photographed in 1941.

Figure 53.—Devastation from Tillamook Burn photographed in 1941.

Figure 54.—Aftermath of Tillamook Burn photographed in 1941.

Range until early in September, when movement was stopped by rain, although it continued to smolder for months. This fire primed the area for additional fires. The second fire occurred in 1939. It burned 209,000 acres, including 19,000 acres of previously unburned forest, and was contained within the boundaries of the earlier fire. A third fire started on the morning of July 9, 1945. This fire burned 182,000 acres, almost all of which had burned previously. This was perhaps the best known because it affected much of the forested mountain landscape as late as the mid-1970s. The last fire started in 1951 and burned only 32,700 acres (Wikipedia, 2012).

By 1951, the private forestland had begun to transition into public ownership. Many private landowners, already reeling from the Depression and the devastating losses from the fires, forfeited the burned land to the county. Between 1949 and 1972, more than 72 million seedlings were planted by hand across the burned areas and a billion Douglas-fir seeds were dropped from helicopters. People from throughout the northwestern part of Oregon helped to plant almost a million seedlings (Oregon Encyclopedia, 2012).

On July 18, 1973, the Tillamook Burn area was rededicated as the Tillamook State Forest, marking an end to the reforestation efforts on the burned areas and the beginning of a forest managed as a healthy, productive, and sustainable ecosystem providing a full range of social, economic, and environmental benefits to Oregon. These benefits include forest products, habitat for native fish and wildlife species, recreational opportunities ranging from horseback riding to mountain biking, and revenue to fund local services (Oregon Department of Forestry, Tillamook State Forest).

Most of the forested land in Tillamook County is managed for timber production. Fire protection for the private land is provided by the Oregon Department of Forestry and local fire districts. Crews have constructed a network of roads in the Tillamook State Forest that provide access for firefighters in the event of a fire. Forest lookouts have also been established. The Bureau of Land Management and Forest Service provide fire protection for land that is administered by these agencies. Douglas-fir is the primary tree species intensively managed for lumber products, and western hemlock, which readily regenerates, also has potential for use as specialized lumber products.

Precipitation varies widely across the county. The coastal margin, including the estuaries and coastal plain, generally receive an average of about 90 inches of precipitation annually. Adjacent to the coastal plain, the low coastal hills

and mountains receive an average of about 95 inches of rainfall annually. The higher, west-facing coastal mountains typically receive about 115 inches of precipitation annually. The interior mountains at the low and middle elevations generally receive about 110 to 130 inches of rainfall annually. At the highest elevations, the average annual precipitation is about 140 inches. Most of the rainfall occurs in October through May. During this period, extended periods of fog and low cloud cover are very common. Snowfall occurs in the county, mostly at the higher elevations. The period of snowfall generally lasts no longer than 30 to 60 days. At the lower elevations, snowfall does not occur regularly, but snow can stay on the ground for 1 to 3 days when it does occur. The length of the growing season varies, depending on elevation. At the lowest elevations along the coastal plain, the growing season averages 160 to 300 days. At the highest elevations in the interior mountains, it averages 40 to 80 days.

Five major soil temperature regimes that greatly influence soil genesis and use and management of the soils are recognized in the county. All of these temperature zones are within the udic soil moisture regime (Soil Survey Staff, 1999 and 2006). A summary of the climatic and topographic ranges for each of these zones is given in the following paragraphs (fig. 55).

The coastal fogbelt represents climate zones 1 and 2. Fogbelt is a general term used for the area that is influenced by fog, low clouds, and cool, moist marine air in summer. It extends from the Pacific Ocean inland about 10 to 18 miles or to the first range of hills or mountains that tend to prevent the low clouds and fog from moving farther inland. Along rivers and in low-lying areas, the fogbelt can extend as far inland as 15 to 20 miles. Climate zone 1 represents the isomesic temperature zone of the coastal lowlands, marine terraces, dunes, coastal valley flood plains and stream terraces, and low hills and mountains. Elevation in this zone ranges from sea level to 1,800 feet. A strong marine influence limits the diurnal and annual range in temperature. The abundant moisture and modified air and soil temperature in the coastal fogbelt result in a long growing season that allows for a large accumulation of organic matter. Typical soils in the isomesic zone include the Klootchie, Necanicum, Neskowin, and Salander soils derived from igneous rock and the Ecola, Munsoncreek, Svensen, and Templeton soils derived from sedimentary rock.

Within the coastal fogbelt are mountains that rise above the surrounding areas. These high coastal mountains have an isofrigid temperature regime and are in climate zone 2. The plant communities are quite different than those of the surrounding mesic and isomesic zones. The vegetation in the isofrigid zone is similar to that of the higher elevations, where the dominant tree species are noble fir, western hemlock, and Douglas-fir. Sitka spruce is also present and is abundant in many areas. Elevation in this zone ranges from 1,600 to 3,000 feet. Temperature and precipitation in this zone are similar to climate zone 1. Representative soils in the isofrigid zone include the Fawceter, Killam, and Mosscreek series derived from igneous rock.

Two distinct temperature regimes are within the inland areas immediately adjacent to the coastal fogbelt. Climate zone 3 is at the lower elevations and represents the interior narrow valleys and mountains, and climate zone 4 is at the middle elevations and represents the interior mountains. The soils have a udic moisture regime. The soil temperature regime is mesic at the lower elevations in climate zone 3 and frigid at the higher elevations in climate zone 4. Elevation ranges from 200 to 2,200 feet in zone 3 and 1,800 to 3,000 feet in zone 4. These areas typify most of the low- to mid-elevation interior regions of the survey area. The growing season is somewhat shorter and warmer than that of the isomesic zone, and the soils dry out more in summer.

Climate zone 5 is characterized by the higher elevation peaks and ridges in the interior areas, and it represents the cryic temperature regime. Elevation ranges from 2,800 to 3,700 feet. The growing season is short, and the soils dry out for brief periods

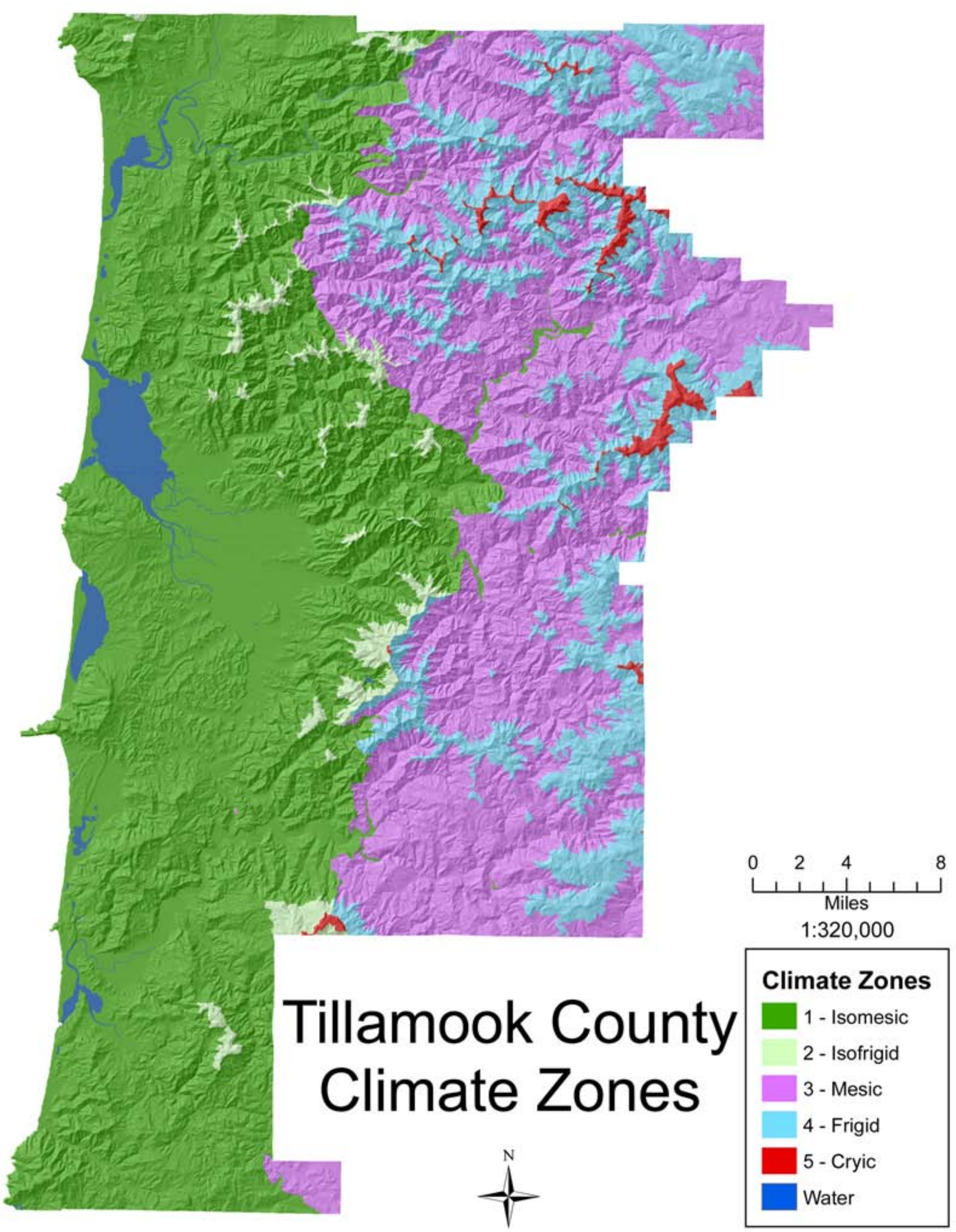

Figure 55.—Climate zones of Tillamook County.

in summer. Tree growth in this zone is slower, and damage to trees by wind, snow, and ice is common.

Many forest vegetation zones are in western Oregon. Three are in Tillamook County, and they can be grouped based on the climax forest vegetation that is in equilibrium with the associated temporal factors of climate, geology, soils, and disturbance regimes. In order from the lowest in elevation and having the longest growing season (along the coastal margin) to the highest in elevation and having the shortest growing season (interior mountains), they are the Sitka spruce (*Picea sitchensis*), western hemlock (*Tsuga heterophylla*), and Pacific silver fir (*Abies amabilis*) zones (Franklin and Dyrness, 1973). These vegetation zones correspond to

the climatic regimes of soil temperature and soil moisture recognized by soil scientists and to the taxonomic classification of the soils.

The Sitka spruce zone is along the coastal margin (fig. 56). It corresponds to the isomesic (cool, moist summers and cool, wet winters) and isofrigid (cool, moist summers and cold, wet winters) soil temperature regimes and the udic soil moisture regime. It stretches from north to south, paralleling the coastline. It varies in width but generally extends inland 10 to 18 miles. The climate is mild, with plenty of precipitation and little fluctuation in air temperature. Typically, this zone is very productive, developing large trees in a relative short period of time. Historically, the main tree species are Sitka spruce, western hemlock, and Douglas-fir. Spruce and hemlock are the most common trees in the area, occurring from the coastal edge to many miles inland. From this point, Douglas-fir becomes dominant and spruce becomes less dominant. Farthest inland, western hemlock and Douglas-fir become dominant and spruce is essentially nonexistent.

The most common disturbance among Sitka spruce stands is intense winds as a result of the close proximity to the ocean. Generally, the areas of disturbance are small but severe winds blow down trees over many contiguous acres. The resulting openings allow for regeneration, which can occur quickly as the trees surrounding the opening act as the seed source. Fire rarely occurs in this zone. The year-round cool, wet conditions result in long periods of several hundred years between fires. In extreme cases, such as in the Tillamook Burn area, fires occur as a result of drought conditions, high air temperatures, and strong, easterly, downslope winds. Fires can

Figure 56.—Sitka spruce and western hemlock in the Sitka spruce zone.

also occur farther inland in the western hemlock zone, where it is drier, and burn westward because of the east winds. When fires occurred, they generally were thought to be stand replacing (removal of most or all of the existing trees in a forest). After such fires, the area either became dominated by shrubs or by conifers and/or hardwood species as a result of regeneration.

Shore pine (*Pinus contorta var. contorta*) is at the extreme western edge of the Sitka spruce zone. It is a variety of lodgepole pine that grows in the deep, sandy soils and dunes adjacent to the ocean. Sitka spruce may also be in areas of shore pine. Shore pine can withstand light, periodic salt spray, but exposure to frequent spray kills the needles. Blowing wind can also affect the growth form of the trees. In areas exposed to constant winds, the trees generally are in the form of a multi-stemmed, low-growing shrub. In the areas that have some protection, they are in the form of a tree but do not grow very tall. These trees stabilize the dunes and help to protect against blowouts and erosion (fig. 57). A little farther inland, in more protected areas, the trees may reach a height of 30 to 50 feet. As with all lodgepole pine, shore pine requires sunlight to thrive. As shade increases, tree growth declines and the crown becomes thinner. This weakens the ability of the trees to ward off insect attacks or diseases. Shore pine is undesirable for lumber. Typical sandy soils that support shore pine include the Waldport series on recently stabilized dunes, the Heceta series on recent deflation plains, the Yaquina series in interdunal swales or on deflation plains, the Netarts series on stable dunes, the Depoe series in swales and depressions of marine terraces, and the Ferrelo series on dissected marine terraces.

Immediately adjacent to the eastern margin of the Sitka spruce zone, toward the interior of the survey area, is the western hemlock zone (fig. 58). This is the most extensive zone in western Oregon. Two soil temperature regimes, mesic and frigid, are in the hemlock zone in Tillamook County. The soil moisture regime is udic (wet). The mesic soil temperature regime is at elevations of 200 to 2,200 feet. The climate is characterized by warm, moist summers and cool, wet winters. Soils that have a mesic temperature regime include the Harslow, Hemcross, Kilchis, and Klistan series derived

Figure 57.—Shore pine (in middle) used to stabilize dunes in the Sand Lake Recreation Area.

Figure 58.—Western hemlock and Douglas-fir in the western hemlock zone.

from volcanic rock and the Astoria, Bohannon, Braun, Ginsberg, Melby, and Tolke series derived from sedimentary rock.

The frigid soil temperature regime generally is at elevations of 1,800 to 3,000 feet. The climate is characterized by cool, moist summers and cold, wet winters. Soils that have a frigid temperature regime include the Caterl, Laderly, and Murtip soils derived from volcanic rock and the McMille and Mutt series derived from sedimentary rock.

Under natural conditions, western hemlock is the climax tree species. Western hemlock is the major component, but long-lived Douglas-fir and some western red cedar commonly are present in the stand. These two species may reach an age of more than 400 years (Franklin and Dyrness 1973). Hemlock is very shade tolerant, and unless disturbed, it will regenerate under any shaded canopy. Other common trees are noble fir (at higher elevations), bigleaf maple, red alder, and some Sitka spruce.

The most common historic disturbance in this zone was wildfire, which occurred infrequently. The absence of fire led to old-growth hemlock forests, with trees reaching an age of more than 400 years. The fire regime generally is thought to be long (150 to 400 years) (Tesky, 1992). The frequency of fires can vary due to climatic changes (Agee, 1991a). When the climate in the Coast Range was drier and warmer, the mean fire interval (MFI) was estimated to be 110 plus 20 years (Long and others, 1998). This shorter MFI was more suited to maintaining Douglas-fir and red alder. When the climate was more moderate, the MFI was 160 plus 20 years. This longer interval allowed shade-tolerant/fire-intolerant species to become established. When the climate was cooler and wetter, the MFI was estimated to be 230 plus 30 years. This allowed western hemlock, western red cedar, and Sitka spruce to become a component of the forest stands

In areas where Douglas-fir was the dominant species over the long term (microsites in the western hemlock zone), the fire intervals may have been shorter (80 to 200 years). Stand-replacing fires may occur at intervals of more than 400 years (Uchytil, 1991). In all of the climatic/vegetative zones, the old-growth Douglas-fir has

a thick, corky bark that protects the tree from low- and moderate-intensity fires. These trees are the seed source for a new forest when fire kills the other trees. Wind-dispersed Douglas-fir seeds colonize the burned area (Spies and Franklin, 1988). If stand-replacing fires are extensive, the seed source may be limited. Seed may come from the few mature trees that survived in small pockets or from trees adjacent to the burned area. Where seed trees are scarce, it may take up to 100 years or more for Douglas-fir to become completely restocked in a burned area. Where fires do not kill all the trees in a stand, seedling establishment may begin within a year or two after burning. Mineral soils exposed by fire generally are considered the most favorable seedbed. Brush quickly grows when the overstory is removed, and it can fully occupy a site within a few years. Brush can reduce seedling survival, extending the period of forest re-establishment.

Where larger fires occurred in any of the forest zones, drought or extended hot, dry conditions commonly existed for several continuous years. The vegetation and duff/litter layer became extremely dry, creating conditions for a severe fire. This kind of fire is called a stand replacement fire. It consumes a vast majority, if not all, of the trees. Even though a stand replacement fire is thought to kill all of the trees, generally there are areas where the intensity of the burning is high, moderate, and possibly even low. Fire-resistant trees would probably survive in the areas where the intensity is moderate or low. Stand-replacing fires not only consume the trees, but they also consume the ground vegetation and the layers of litter and duff, exposing the soil. Bare soil and/or full sunlight are needed for natural seeding of some trees. Trees that re-establish initially include red alder, Douglas-fir, and/or western hemlock.

Western hemlock has a low degree of fire resistance due to its thin bark, shallow roots, highly flammable foliage, and low-hanging branches (Tesky, 1992). It tends to form dense stands, and its susceptibility to fire is greatly increased by its commonly lichen-covered branches. After a severe fire, the initial natural succession begins with the re-establishment of stands of red alder and/or Douglas-fir. Over time, Douglas-fir commonly will become the dominant species. If fire does not return for an extended period of time, western hemlock will regenerate under the Douglas-fir canopy. With continued exclusion of fire, the hemlock will grow up into the canopy and become dominant. Eventually, only a few large old-growth Douglas-fir trees will remain.

In the western hemlock zone, Douglas-fir currently is dominant. This is largely due to the intense management of Douglas-fir for timber during the last 60 to 100 years. After harvesting, Douglas-fir has been replanted to maintain a seral stand. The continued replanting of Douglas-fir has some negative consequences. For example, laminated root rot, a serious rot disease in Douglas-fir, survives on roots and stumps for many years, spreading by root-to-root contact. Replanting Douglas-fir in an already infected area is not recommended. Once the trees are infected, they will eventually die. Swiss needle cast, a leaf disease on Douglas-fir, severely affects the forests in the survey area.

Typical understory vegetation is western swordfern, salal, vine maple, Oregon oxalis, cascade Oregongrape, Alaska huckleberry, creambush oceanspray, rusty menziesia, salmonberry, red huckleberry, deerfoot vanilla leaf, twinflower, insideout flower, and trailing blackberry. Other trees that can be found in varying numbers are western red cedar and red alder.

The Pacific silver fir zone is at the highest elevations in the Coast Range, generally 2,800 to 3,700 feet (fig. 59). The climate is characterized by cool, moist summers and cold, wet winters. These conditions correspond to a cryic soil temperature regime and a udic soil moisture regime. Pacific silver fir is the main climax species, but it generally is not in the canopy of the present managed stands. The most common tree species are noble fir, Douglas-fir, western hemlock, and to a much lesser extent, western red cedar. After a natural disturbance, it may be 400 to 500 years before Pacific silver fir seedlings and saplings are in the forest stand (Cope, 1992; Franklin and Dyrness, 1973).

Figure 59.—Noble fir, Douglas-fir, and western hemlock in the Pacific silver fir zone.

Under natural conditions, the most common large-scale disturbance in Pacific silver fir forests is wildfire. Because of the wet, cool climate, fires occur infrequently. When fires occur, they generally are severe and stand replacing. The fires are severe because of the large amount of fuel that accumulates on the forest floor and the high density of the trees (Houston and Scott, 1992).

The fire interval is recognized as being very long, or 350 years to more than 500 years. The fires are infrequent because of the high humidity and precipitation. Fire frequency can be a limiting factor in the establishment of Pacific silver fir (Agee, 1991b). Pacific silver fir is extremely sensitive to fire throughout all stages of its life, primarily because of its thin bark, shallow root system, and highly flammable foliage (Cope, 1992). Even though Pacific silver fir is the recognized climax species in areas of cool, wet, high-elevation soils, it is possible that it might not ever grow in these areas. Even during a low intensity fire, mortality of Pacific silver fir occurs. If present, species that are tolerant or moderately tolerant of fire would survive and reseed.

After a severe fire, Douglas-fir generally is the initial tree species to become established, and red alder, noble fir, or western hemlock may become established to a limited extent. Old-growth Douglas-fir has very thick bark and can withstand moderately intense fires. Depending on the size and severity of the fire, re-colonization may take an extended period of time. If no seed source is available, brush will become dominant in the area, further inhibiting tree establishment.

Western hemlock may also be present in the Pacific silver fir zone, but it generally has less effect on the stand. It may be moderate or high in abundance, but it is smaller in diameter and height. It is tolerant of shade and will become established under any tree canopy with enough time. It is a fire-sensitive species and will succumb to a fire of moderate to severe intensity.

Presently, the forests in the Pacific silver fir zone are managed for Douglas-fir and/or noble fir. The zone is highly productive with good forest management. After

harvesting, Douglas-fir and noble fir commonly are replanted to maintain the stand. A common rotation cycle is 50 to 70 years.

The forest ground vegetation commonly consists of a well-developed layer of shrubs, forbs, and mosses. The most common understory plants are Alaska huckleberry, salmonberry, red huckleberry, Oregon oxalis, western swordfern, rusty menziesia, salal, common beargrass, and copperbush. Soils in the Pacific silver fir zone include the Newanna, Sevencedars, and Woodspoint series derived from igneous rock.

Most of the forested soils in the survey area are considered highly productive. Productivity is affected by characteristics such as soil depth, availability of moisture, content of rock, fertility, and climate. Productivity generally is expressed as a site index. Site index is the height, in feet, that a tree will reach at a certain age. It is calculated from a series of dominant or co-dominant trees sampled on a specific soil. An average site index is calculated from all trees sampled. Site indexes can be calculated for trees 50 years old, 100 years old, or both. A specific site index table has been developed for most commercial species (Curtis and others, 1974; DeMars and Herman, 1987; King, 1966; Wiley, 1970).

A grouping of site indexes is called a site class. Site classes have been established for most commercial tree species. Site classes I, II, III, IV, and V or lower generally are used. Site class I is the most productive, and site class V or lower is the least productive. For example, site class I for Douglas-fir (50-year base age) is more than 136, site class II is 116 to 135, site class III is 96 to 115, site class IV is 75 to 95, and site class V is 55 to 74. A higher site index also means that the soil has greater potential to produce wood mass. Not only do the trees grow taller and larger in diameter, but more trees can be grown on an acre of ground. The productivity of an area, expressed as wood volume in cubic feet per acre per year or board-feet per acre per year, is based not only on how tall a tree becomes but also on how many trees can be supported on an acre of ground. Site class I soils can support the most trees, producing the most wood volume. Site class I soils generally are 60 inches deep or more. They generally are medium textured, are high in content of nutrients and organic matter, have a high available water capacity, and are well drained. A stand of 400 young seedlings on an acre, however, generally does result in a stand of that many 50-year-old trees. Competition for moisture, light, and space leads to mortality, commonly leaving the site at or below its potential productivity. To reach full productivity, a high level of management is needed. Adjusting stocking rates (trees per acre) to the soil conditions, the precipitation, and the species, age, and growth rate of the trees affects the amount of wood volume produced.

Productivity is also influenced by the availability or lack of nutrients. A productive soil has a good nutrient balance. Lack of nutrients or an imbalance can be detrimental to productivity. The availability of nutrients decreases as the soil pH decreases. Generally, conifers prefer acidic soils. The optimum soil pH for a western Oregon conifer is 4.5 to 6.0. If the soil pH is below 4.5, several major elements are less available for plant growth. The high amount of precipitation in the survey area results in extensive leaching of bases; therefore, most of the soils have low base saturation. Conifers absorb bases, but they do not readily return bases to the soil. Organic matter accumulates in the upper part of the soil because the cool temperatures slow down the rate of decomposition. The growth of some soil micro-organisms, such as bacteria and actinomycetes, is essentially inhibited by low soil pH (Brady, 1974). These micro-organisms are needed for the decomposition of organic matter and liberation of available nutrients. Soil fauna and microflora may undergo unfavorable changes, the physical properties may be impaired, and nutritional imbalances due to a deficiency of nutrients (calcium or magnesium) and toxicity to certain elements (manganese or aluminum) may develop (Lutz and Chandler, 1961). The ability of the soil to release hydrogen ions and replace them with other beneficial positive ions, elements such as nitrogen, phosphorus, potassium, calcium, magnesium, and sulfur, decreases. This

exchange is known as cation-exchange capacity (CEC). Generally, fine textured soils (silty clay and silty clay loam) have a higher CEC than coarse textured soils (sandy, sandy loam, and loamy sand). When the pH level is below 4.5, nutrients that are used very little become abundant. Aluminum, iron, and manganese commonly are soluble in sufficient quantities to be toxic to some plants. The highly consumed nutrients become less available, creating a nutrient imbalance. Trees will continue to grow but not at an optimum level. Site quality, as it is influenced by soil, depends on the integration of all of the physical, chemical, and biological soil properties. The chemical composition of soils is influenced by the parent material, biological activity, climate, topography, and time.

The silvicultural systems used by individual landowners and land managers differ according to the management objectives. Silvicultural systems define the sequence of management practices that take place over the entire life of a forest stand. A silvicultural system consists of three phases—harvesting, regeneration (reforestation), and management of the stand. Because of the wide variety of forest types and site conditions in the survey area, actual practices used in each phase on a specific harvest unit also vary. The value and quality of wood products should be considered in the design of silvicultural systems, which include proper rotation periods between harvests, regulation of stand density, and tree pruning or thinning (Kintop and Ziegler, 2004). Reforestation is the most critical part of any silvicultural system. All silvicultural practices are regulated under a variety of statutes, one of which is the Oregon Forest Practices Act (State of Oregon, 1991).

Currently, even-aged systems are used by landowners that manage the largest acreages. Some other landowners use uneven-aged systems on all or part of their land. The even-aged systems commonly used in the survey area closely resemble the classic silvicultural systems that include clearcut and shelterwood methods of harvesting (Smith, 1962).

In response to concerns about the protection of endangered species (USDI, 1992) and other environmental issues, some landowners are considering other silvicultural systems for managing forestland (Franklin, 1990; USDI, 1994 and 1995). These systems are modifications of the more traditional systems. The main emphasis of management is shifted from timber production toward retention or re-creation of ecosystems that more closely resemble the natural ecosystems in composition, structure, and function. Retaining live trees, snags, and large-sized, downed woody debris provides the initial structure and composition for development of the natural ecosystem. The forest stands that result from the application of structural retention systems commonly have multiple canopies and multiple ages of trees (Kintop and Ziegler, 2004).

Clearcutting is the most common harvesting technique (fig. 60). After an area is harvested, re-establishment of a new forest stand is required. To ensure that the planting is successful, site preparation for the new seedlings is needed. An important factor in preparing a site for new seedlings is the control of competing vegetation. Unwanted vegetation should be kept away from newly planted seedlings so that it does not out-compete the seedlings for moisture and light. The unwanted vegetation can be treated either mechanically or chemically. Depending on the species, slope, aspect, precipitation, temperature, and soil, a site-specific treatment plan should be developed.

The risk of compaction and the effect of mechanical equipment on a soil should be considered. Soils have a natural density, known as bulk density. It is a measure of the percent pore space and solids in a soil. It affects root penetration and the amount of air and water the soil can hold. Soil strength, an important property for engineering, is closely related to bulk density. Texture and structure are inherent soil characteristics that determine bulk density. Mineralogy, soil chemistry, parent material, and depth of the soil profile are also influential. Soils that are loose and porous have a lower mass per unit volume and thus a lower bulk density than do soils that are more compacted

Figure 60.—Clearcut in an area of Murtip-Caterl-Laderly complex, 5 to 30 percent slopes, in the Rye Mountain-Bald Mountain area.

(Brady, 1974). Within various particle-size classes, bulk density is an indicator of how well plant roots can extend into the soil (National Soil Survey Handbook). The soil becomes more root-restrictive as bulk density increases.

Operating heavy equipment on a soil causes compaction, which decreases the amount of available pore space and increases bulk density. As the bulk density increases, seedling roots are not able to extend farther into the soil for nutrients and water. A slight increase in bulk density has very little effect on root growth; however, a large increase in bulk density can significantly affect root growth. Proper timing of the operation of heavy equipment is important. Saturated soils are most susceptible to compaction, moist to wet soils are somewhat less susceptible, and dry soils are least susceptible.

Pore space, which is needed for root growth, is the physical space between soil particles that contains water and oxygen. As the pore space decreases (increased compaction), most roots will be concentrated at the fringes of the compacted area. The smaller root mass limits the amount of water and nutrients that can be used for above-ground tree growth. Soil compaction also affects actual root development. For good root growth, the pores need to be larger than the tip of the roots. As the soil is compacted, the smaller pore size forces the roots to adapt. They become larger in diameter in order to exert more force to penetrate the smaller pore space. As roots thicken, growth slows down and lateral root development increases. If the lateral roots are smaller than the pore size, they will continue to develop. If compaction is severe and the pore size is smaller than the lateral roots, growth will stop. When root growth stops, the above-ground development of the tree stops or drastically slows down.

The degree of compaction is affected by soil texture, content of rock fragments, and soil moisture. Soils that are at or near saturation are more susceptible to compaction than are soils that have a moisture content of 15 to 35 percent. Soils that have a low

content of rock fragments are more susceptible to compaction than are soils that have a moderate or high content. Generally, fine textured soils are more susceptible to compaction than are coarse textured soils. Soil compaction also restricts the infiltration of water and air into the soil. The compaction can last for many years, diminishing the growth potential and wood volume production. Use of heavy machinery for site preparation, such as clearing brush and piling logging slash, can result in compaction. Proper timing of site preparation is important to minimize the potential for compaction when using track-based or rubber-tired equipment. Site preparation should be completed late in summer or early in fall when the soil is driest. When converting pastures to forest, other types of mechanical treatment may also be needed. Livestock grazing when the soil is wet also causes compaction. A subsoiler or chisel plow that rips the soil to a minimum depth of 18 inches should be used. Ripping should be completed in summer or fall prior to planting.

If a site is well prepared, establishing new seedlings can be accomplished readily. Selecting the proper seedlings for a site is critical. Variability in site conditions, such as the soil, elevation, precipitation, and aspect, should be considered in determining the size of the tree seedlings to plant. In the Coast Range, large seedlings (2-1) are recommended because of the quick growth of unwanted vegetation on cleared sites (fig. 61). The 2-1 seedlings are tall and have an extensive root system, which help the seedlings to become established and compete with brush. In areas where competition for moisture is critical, keeping competing vegetation away from newly planted seedlings is necessary. Competing vegetation is defined as any plant (grass, forb, weed, brush, or tree) that uses soil moisture, space, and light. Removal of unwanted vegetation can be done by hand or by use of equipment or chemicals. Proper timing of removal is critical. Early and repeated removal of unwanted vegetation is best.

Animals can also become a nuisance and kill or set back the growth of trees. Grazing of terminal buds on the ends of branches or the main leader stem by deer, elk, or livestock slows growth and can result in growth of multiple leaders, which lowers the quality of the tree. Stems and roots are used as a food source by mountain beavers, mice, and voles. Keeping the area 3 to 4 feet around the seedling clear of unwanted vegetation reduces the risk of damage.

Roads are needed for forest operations that require the use of heavy machinery onsite, such as harvesting, thinning, and site preparation (fig. 62). Roads, however, are the major source of sediment in streams (Swift, 1984). Proper placement, design, and construction of roads is essential to minimize the movement of sediment and deposition offsite. The geology, soils, and topography of a site along with the amount and intensity of rainfall should be considered in road design. Roads should be in-sloping, out-sloping, or crowned. Breaks in road slopes are needed to safely move water from the road. This can be accomplished by installing water bars or rolling water dips. The spacing for a bar or dip should be based on the erosivity of the road surface. Fine textured and moderately fine textured soils (clay, silty clay, sandy clay, clay loam, silty clay loam, and sandy clay loam) generally are more erosive than coarse textured soils (sand, coarse sand, and loamy sand). Erosivity decreases as the content of rock fragments increases. Research has shown that a 6-inch layer of three-quarter minus rock can significantly reduce the amount of sediment eroded from roads (Swift, 1984).

Cut and fill slopes of roads can also be a source of sediment. Proper erosion control is needed on all newly exposed soils to help minimize detachment of soil particles and sedimentation. Most of the soils in the survey area have a surface layer of loam, silt loam, or clay loam. Generally, a minimal amount of sediment from cut and fill slopes of established roads is deposited in streams if proper erosion control methods are applied (Borroughs and King, 1989). If the roads are not properly designed and treated, a significant amount of sediment can be deposited in watercourses (fig. 63). Proper road design includes use of the proper size and location of culverts. Culverts are designed to safely handle the velocity and volume of water from roads and from

Figure 61.—Ceanothus encroachment in the Willamina Creek drainage area.

Figure 62.—Heavy equipment used in forest management operations.

Figure 63.—Roads can be source of sediment that is detrimental to aquatic systems.

intermittent and perennial streams. Water runoff and sediment movement from road corridors are influenced by soil texture, rainfall intensity, vehicle usage, and slope.

Measures to improve drainage and reduce sedimentation are needed on roads that are no longer in use. This can be accomplished by seeding the roads and the cut and fill slopes, installing berms to restrict travel, ripping the roads, planting tree seedlings, removing culverts, seeding or planting native vegetation, or filling in the road area and reconstructing the hillside. The goal of these operations is to return the site to its natural hydrology.

Forest management practices such as road construction, timber harvesting, and slash removal through burning may alter the physical and biological properties of a landform (fig. 64). These practices can affect the stability of a slope and the occurrence of mass wasting, which is the downslope movement of soil and rock material through a variety of landslide processes such as shallow, rapid translational failures, debris avalanches and torrents, slump-earthflows, and creep (Oregon Department of Forestry, 2000a; Swanston, 1979). Mass wasting is a natural process in watersheds, although the frequency and magnitude can be influenced by human activity. Public safety, private property, roads, bridges, water quality, and fisheries can be affected by mass movement (USDI, 1996). In this section, the term “landslide” is used as a general one that includes all gravitational mass movement, even though some of these processes are not truly “slides” (Burns, 1998; Schuster and Chleborad, 1989).

Some of the more important factors that contribute to soil/slope instability are steep slope gradient, low soil strength, declining root strength, ground water accumulation

Figure 64.—Burning to remove excess logging slash.

and alteration of natural water routing, and high frequency, duration, and intensity of precipitation (USDI, 1996).

Physical alteration of the landscape can include slope steepening and changes in soil strength. Construction of roads and skid trails have the greatest effect on slope stability of all activities on forestland (Sidle and others, 1985). Changes in vegetation can also have both hydrological and mechanical effects on the stability of slopes (Greenway, 1987).

The vast majority of landslide studies have focused on the relationship of tree removal and road construction with debris slides (also referred to as shallow-rapid landslides) and not with deep-seated landslides (Oregon Department of Forestry, 2000a). Nearly every earlier research study indicates that clearcut timber harvesting increases the likelihood of landslides and the associated erosion and sedimentation on steep, unstable hillsides (Hockman-Wert, 1997; Swanson and Dyrness, 1975; Swanson and Swanston, 1977; Swanston and Swanson, 1976; Swanston, 1979; Weaver, 1996; Youngberg and others, 1971). Other studies demonstrate relatively small differences in the frequency of landslides between clearcut areas and uncut forest stands (Ketcheson, 1978). Road construction by side casting on steep slopes is hazardous and results in a greatly increased rate of landslides and stream sedimentation. The impact of coarse sediment introduced into streams and rivers by landslides and road failures may persist for many decades, depending on the rate of transport of sediment. The effects to lower lying, large streams and rivers may actually increase over several years as sediment from the headwater areas is moved downstream and deposited in the less sloping reaches (Weaver, 1996).

The earlier studies only address the rate of landslides during the first few years after harvest. No studies were conducted on the landslide rate in areas with an established second-growth forest. More recent studies have shown that clearcutting may actually only change the timing of natural landslides, and over longer periods of time the total erosion from shallow-rapid failures may not be affected by timber removal (Froelich, 1978; Swanson and others, 1981; Swanson and Frederiksen, 1982). One such study

documented that in the years immediately after logging, the displacement rate of an active earthflow increased to 20 millimeters per year. After 3 years, the displacement rate returned to the pre-logging rate of 3 millimeters per year (Swanston and others, 1988).

After harvesting, acceleration in soil mass movement is common for 10 to 15 years, but subsequent erosion (before the next harvesting rotation) may actually be below normal levels. This hypothesis has not yet been substantiated by field data (Sidle and others, 1985). A study completed by the Oregon Department of Forestry in the late 1990s suggested that even if clearcutting did increase the number of landslides in the first 10 years after logging, it may not increase the number of slides over a longer period of time. If a site is prone to slides, clearcutting hastens the inevitable but does not cause more slides. The study indicates an increase in the frequency of landslides in the first 10 years after harvest and then a decrease thereafter (Mills, 1996; Robison and others, 1999).

Landslide erosion affects less than 1 percent of the land in western Oregon (USDI, 1996). One study found that 95 percent of all slides occurred on slopes of more than 70 percent (35 degrees) (Swanson and others, 1981). Landslides can have a significant impact on water quality and fish habitat.

Forest operations in mountainous areas of the Pacific Northwest have a major impact on soil erosion processes. Accelerated erosion due to forest land management activities may reduce productivity of forested soils over much of the affected watershed; cause damage to roads, bridges, and other structures; and have an adverse impact on the stream environment downstream (Swanston and Swanson, 1976).

Roads can be a significant source of sediment to streams in forests. Efforts should be made to stabilize and protect cutbanks from slumping and erosion, since this sediment can be detrimental to aquatic ecosystems (fig. 65). The main impacts of road construction are an interruption of the natural balance between the resistance of the soil to failure and the downslope stress of gravity by disturbance of marginally stable slopes and alteration of subsurface and surface water movement. Disturbance results from improper cutting of marginally stable slopes, poor construction and placement of fills on steep slopes, and improper drainage. Roads alter the routing of water by intercepting surface water at cut slopes and surface drainage from roads and by carrying excess water through ditches and culverts (Megahan, 1972; Harr and others, 1975). Mass erosion commonly occurs where natural and artificial drainage systems are inadequate to handle the amount of excess water (Swanston and Swanson, 1976). Grading for traffic and maintenance rejuvenates the supply of fine sediment and thus makes roads a potential long-term source of sediment to streams. The cost of total erosion control on roads or capture of all road-derived sediment is prohibitive and, in most locations, unnecessary because the forested slopes below the road catch and retain much of the sediment (Reid and Dunne, 1984). Except for landslides, erosion is not a major concern in the moist Pacific Northwest forests because the overstory and understory vegetation and litter protect the soil from the impact of raindrops (Oregon Department of Forestry, 2000b). Moist climates also favor fast vegetation regrowth after most disturbances. The key to predicting whether a particular road segment is a significant source of sediment to streams is determining the connectedness of road drainage to stream channels (Reid and Dunne, 1984; King and Gonsior, 1980; Luce and others, 2001a; and Luce and others, 2001b).

Timber removal has traditionally been considered the primary cause of reduced deep-soil root strength and alteration of the hydrologic regime of the soils, possibly from loss of transpiration by plants (Barnett, 1989; Swanston and Swanson, 1976). Most of the research on the effects of vegetation on slope stability in northwest forests has concentrated on the potential reduction in root reinforcement, or root strength. The importance of roots to the stability of shallow soils in steep areas under coniferous

Figure 65.—Stabilization and protection from erosion on cutbanks in an area of Templeton-Ecola medial silt loams, 30 to 60 percent slopes.

forests and after removal of forests in western North America has been documented by many researchers (Swanston, 1970 and 1974; O'Loughlin, 1974; Ziemer and Swanston, 1977; Burroughs and Thomas, 1977; Wu and others, 1979; Ziemer, 1981; Gray and Megahan, 1981). Generally, these studies indicate that the continued stability of soils on many steep, forested slopes depends largely on reinforcement from tree roots, especially when the soils are partially or completely saturated. After removal of the forests, the gradual decay of the tree roots commonly predisposes the soils to failure (Oregon Department of Forestry, 2000a). When the roots of dead trees lose their strength and water saturates the ground and more runoff occurs, the risk of landsliding increases. Roots of brush species may be critical to slope stability following clearcutting, especially in areas of shallow soils that are underlain by smooth, unfractured bedrock (Burroughs and Thomas, 1977). Soils that have slopes of more than 70 percent, are in concave positions, are underlain by hard bedrock, and receive a high amount of rainfall are most at risk for landsliding when root strength is lost (USDI, 1996).

Although disagreement still persists as to whether root strength is the primary factor in maintaining soil stability in forested areas, most landslide specialists agree that it plays a major role (Skaugset, 1997). In recent years, soil disturbance has been minimized on steep slopes by the use of cable logging systems and the reduction of slash burning to retain the root systems of shrubs. Less disturbance helps to minimize the rate of erosion, but it is unclear if it significantly reduces the frequency of landslides (Weaver, 1996).

Tree removal can have varying effects on slope stability. The effects include alteration of the forest canopy, resulting in changes in water routes; accumulation of snow and alteration of snowmelt patterns; and loss of buttressing and arching by trees at the base of a potential landslide. Falling timber and yarding logs with heavy equipment may cause a reduction in the infiltration rate of the soils due to compaction and alteration of the macropore space in the soil, thus changing the water route

(Oregon Department of Forestry, 2000a). Clearcutting, the primary timber harvesting method used in northwest forests, increases the frequency of soil mass movement events in areas of soils that formed in colluvium over arkosic sandstone (fig. 66), are less than 3 feet deep to bedrock, and typically are slightly cohesive to moderately cohesive (Gresswell and others, 1979). These soils include the Ascar, Bohannon, Braun, Ecola, Harslow, Kilchis, Killam, Laderly, Mutt, Neotsu, Templeton, and Newanna series, which are extensive throughout the central and northern parts of the survey area.

Dense vegetation and a high infiltration rate help to minimize surface erosion on many forested soils. In many areas, the forest vegetation is important in stabilizing slopes and reducing the rate and frequency of mass movement (Swanston and Swanson, 1976). Surface erosion occurs when detachable soils on sufficiently steep slopes are exposed to overland flow and/or the impact of rainfall. Sediment from surface erosion deposited into streams generally is fine grained and can affect the quality of the water and aquatic habitat. Raindrop splash, freezing and thawing, dry raveling, and biogenic processes such as windthrow and animal burrowing cause soil detachment (fig. 67). Gravity and overland flow of water transport the detached soil particles. Overland flow of water rarely occurs in areas under natural forest vegetation because the soils commonly are covered with an absorbent, protective layer of organic material. Plant cover, the angle of the hillslope, soil texture, infiltration rates, and climate are important influences on the inherent risk of erosion of a site (USDI, 1996). Soils that have a high content of organic matter generally are subject to a lower risk of erosion than are soils that have a low content of organic matter. The high content of organic matter contributes to good soil structure, high porosity (both micropores and macropores), and a high infiltration rate. These factors allow water to enter the soil and move through it rather than flow over the surface (Oregon Department of Forestry, 2000b).

Figure 66.—Arkosic sandstone of the Yamhill Formation.

The effects of fire on soils and the subsequent erosion and sedimentation have been studied and documented by many researchers. These effects include changes in soil biology such as microbes, fungi, and roots (Brady, 1974; Krammes and Osborne, 1969; Swanson, 1979); organic matter content (Sidle, 1980; Youngberg, 1979); physical and chemical properties such as pore space and texture (Berglund, 1976; Dyrness and others, 1957; Bennett, 1982); and a reduced amount of material on the soil surface such as plant cover and woody debris (Martin, 1981; Mersereau and Dyrness, 1972). These can lead to dry ravel, sheet and rill erosion from overland flow, and soil mass movement.

Dry raveling, the tumbling downslope of detached soil particles under the influence of gravity, occurs in the Coast Range. Soils that have slopes of more than 60 percent and have a large amount of rock fragments on the surface or are in areas associated with Rock outcrop are most susceptible (Barnett, 1989). Ravel occurs when the cohesive forces holding soil particles together on a slope are reduced. Fire induces or accelerates raveling because it affects the stabilizing forces in the soil. Intense fires generate strong convective winds that physically dislodge downed material, resulting in the downslope movement of woody debris and soil. Fire can also remove vast amounts of vegetation, exposing soil and rock to erosional forces such as intense rainfall and freezing and thawing (at higher elevations). The intense heating of the layer of organic matter reduces the cohesiveness of the soil particles and the bulk density of the surface material, creating a water-repellent soil material that is easily dislodged by raindrops (DeBano and others, 1967). The increase in runoff subsides within the first year or two after a severe fire, as fire-induced water-repellency diminishes, ash and other fine sediment are removed from soil pores by overland flow, and plant cover becomes reestablished (Wondzell and King, 2003). Because the roots of fire-killed trees and shrubs commonly deteriorate very slowly, a severe burn may

Figure 67.—Windthrow in an area of Heceta fine sand, 0 to 3 percent slopes.

compromise the mechanical cohesion of soil in some forest stands for as long as 10 years. Therefore, fire-induced landslides may occur long after the potential for erosion as a result of runoff has ceased (Youngberg and Wollum, 1976). Factors indicative of potential ravel erosion include plant cover, slope, and aspect (Bennett, 1982; Mersereau and Dyrness, 1972).

The risk of sheet and rill erosion is minor when the soils are undisturbed. Most soils have a high capacity to conduct water even when saturated (Yee and Harr, 1977). The protective cover provided by the layer of litter is an important factor in preventing sheet erosion because it increases infiltration and decreases runoff, thus reducing the risk of erosion. Litter absorbs the impact of raindrops, thereby preventing the destruction of soil aggregates, the dislodging of particles, and the compaction of macropores (Lowdermilk, 1930).

The most likely effect of fire on soil mass movement is the reduction of surface root strength as a result of destruction of the ground cover and shrub species (Swanston, 1970; Klock and Helvey, 1976). After burns, surface flow incorporates large volumes of ravel and mobilizes debris released from behind burned logs in the channel, causing what are called debris torrents (Swanson, 1979).

Slope failure is a natural process, and it can have both positive and negative effects on fish habitat. Management of roads to reduce or minimize failures is well developed; however, management to reduce or minimize slope failure that is not related to roads is less well developed. A number of more recent unconventional approaches are being considered in landslide research. An example is the maintenance of functional riparian zones along channels where debris torrents may occur in order to mitigate their destructive force and increase the positive effects of these areas on forest ecosystems (Independent Multidisciplinary Science Team, 1999).

If a relatively large percentage of the high-risk areas in a given watershed supports a very young forest, the risk of landslides is higher. Younger forests do not provide as many of the larger wood products as do older forests. Leaving some trees and/or large pieces of downed wood from the previous stand during harvesting can help to reduce the risk of landslides.

Even with all the previous research, it is still not known what the long-term effects are for erosional processes that continue over several timber rotations. It is very difficult to quantify the links between the effects of erosion and the physical stability and biological integrity of diverse forested areas (Oregon Department of Forestry, 2000b).

Logging operations can cause compaction, displacement, and rutting of soils on the forest floor and on roads, landings, and skid trails. Soil displacement occurs when the soil is gouged, scraped, or pushed from its natural position by equipment. This displacement can impede plant recovery, and long-term exposure of bare soil increases the potential for erosion, possibly leading to deterioration of the site. Fine textured and moderately fine textured soils (clay, silty clay, sandy clay, clay loam, silty clay loam, and sandy clay loam) are less susceptible to displacement than are coarse textured soils (sand, sandy loam, and loamy sand). Soils that have a moderate to high content of rock fragments have less tendency to be displaced. Steeper slopes (more than 30 percent) are more susceptible to displacement by heavy equipment.

Rutting occurs when the soil is wet or saturated and heavy machinery is used on a road, landing, or skid trail that does not have a rock base. Coarse grained soils (sand, fine sandy loam, and loamy fine sand) have a low potential for rutting. Fine textured and moderately fine textured soils and soils that are high in content of organic matter have a high potential for rutting. Soils that have a rock fragment content of 20 percent or more have a lower potential for rutting. To minimize the potential of rutting, traffic areas should have a rock base and use should be restricted seasonally. Rutting can result in soil displacement and puddling.

Puddling occurs when tracked or wheeled equipment is used on wet soils (fig. 68). The soil structure becomes deformed when much of the pore space is eliminated, and

Figure 68.—Effects of puddling on Munsoncreek soils in an area of Fendall-Munsoncreek medial silt loams, 5 to 30 percent slopes.

the soil becomes practically impervious to air and water. As a result, runoff and the risk of erosion increase. Erosion commonly begins on a road or landing, but the increased runoff can also start the erosion process on non-compacted soils. Where this occurs, more fine soil particles can become suspended in water, increasing the potential for sedimentation of streams. Loam, silt loam, and clay loam and clayey soils are most susceptible to puddling. Use of wheeled and tracked equipment should be restricted when excessive puddling or rutting occurs.

To minimize the damage to the soils, designated skid trails can be used. These are temporary or permanent routes in the forest established for hauling trees to a landing or road. Skid trails help to minimize soil compaction, rutting, and puddling. If use of ground-based harvesting equipment is not restricted to designated areas, it is estimated that as much as 20 percent of the site will be compacted. Use of designated skid trails 100 feet apart can reduce the compacted areas to about 10 percent (Garland, 1997). New high-technology harvesting equipment can also be used to reduce the damage to the soils. Most of these machines have a lighter impact on the soils. Many of them harvest, buck, load, and haul in one operation; therefore, traffic is greatly reduced. Low pressure, rubber-tired equipment can also be used to minimize soil compaction. The ground pressure from this type of equipment generally is less than 10 pounds per square inch, which is lower than that of a human foot (Adams and Froehlich, 1981).

Because soil erosion is a major concern, selecting a harvesting system that creates the least ground disturbance is important. Ground-based harvesting creates the most disturbance (estimated as much as 35 percent bare ground) (fig. 69). Partial suspension and skyline systems create a moderate amount of disturbance (12 to 15 percent bare ground) (fig. 70). Balloon/helicopter logging creates the least disturbance (6 percent bare ground or less).

In managed and unmanaged stands, disease and insects can attack and kill trees. The amount of damage varies from year to year. Factors such as heat, drought, snow,

Figure 69.—Heavy equipment used in a ground-based logging system.

cold, frequent flooding, slow growth, or low vigor can weaken trees and make them susceptible to insect infestation or disease. Soil temperature and moisture and soil condition affect the occurrence and virulence of disease.

Most diseases (native) occur at endemic levels, annually killing scattered trees. On a cumulative basis over time, they can have a much larger deleterious effect. Some common diseases in the survey area are *Armillaria* root disease, *Annosus* root rot, *Schweinitzii* root rot, laminated root rot, Swiss needle cast, *Phomopsis* canker, and *Dermea* canker. The root rot diseases are becoming an increasing concern because of the planting, harvesting, and replanting of monoculture stands of Douglas-fir trees. These diseases are extremely hard to eradicate. They not only kill living trees but also survive in dead roots and in the soil for years. Susceptible trees that grow in the infested area will eventually become infected and die. Root-to-root contact is the main way the diseases are spread. Management practices that delay or hinder the spread of these diseases include removal of diseased trees (fig. 71) and thinning of stands (fig. 72).

Swiss needle cast (*Phaeocrytopus gaeumannii*), a disease that affects the needles of Douglas-fir, has become a major concern in the Northwest coastal forests and inland as far as 18 miles (figs. 73 and 74). This needle disease has spread across hundreds of thousands of acres where Douglas-fir has been planted as a monoculture. The disease causes needles more than 1 to 2 years old to drop from the trees. Normally, needles remain on the trees for 4 to 5 years. Loss of the needles after 1 to 2 years limits the amount of photosynthesis that can take place; therefore, the diameter and height of the trees is drastically reduced. Few options are available for control of the disease on large forest operations. Fungicides control the disease, but application on a large scale is very expensive. Planting multiple species, spacing trees for good air circulation, and planting locally adapted trees can help to limit the disease.

Figure 70.—Partial suspension logging system used in an area of Caterl-Laderly-Murtip complex, 60 to 90 percent slopes.

Figure 71.—Removal of trees affected by root rot in an area of Hemcross-Klistan complex, 5 to 30 percent slopes.

Figure 72.—Root rot management includes thinning of stands to help prevent the spread of the disease.

Canker diseases, in general, are not a serious problem. A canker is an area on a branch or tree trunk (cambium and bark) that is damaged by a disease. In forests, canker diseases are endemic and rarely reach epidemic proportions. They are most severe in timber plantations or ornamental plantings such as Christmas trees. *Dermea* canker severely damages Douglas-fir trees, especially in young plantations. Trunk infections commonly girdle trees, first killing the top and then eventually killing the entire tree. *Phomopsis* canker occurs sporadically and generally becomes a problem when drought or other climatic conditions weaken the host trees. The disease mainly affects young trees. It is not considered to be a major concern in natural stands, but it occasionally causes serious damage in plantations.

Dwarf mistletoe (*Arceuthobium tsugense*) can be a serious problem in stands of western hemlock. It does not infect large areas of trees, but it can infect individual trees or pockets of trees. Mistletoe is a parasite that receives nutrients from the host tree. Severe infections can limit growth, cause branches to die, and possibly lead to death of the tree. Evidence of moderate to severe infections appears as densely branched pockets on needles and branches. These dense spots are called witches brooms. Early detection of mistletoe is possible because infection points have abnormal swelling with eventual plant growth into a leafless green stalk. The parasite spreads throughout the tree and weakens it, which can lead to breakage, susceptibility to insect or disease infestations, and windthrow.

Soil texture and drainage can affect the occurrence of root diseases. Moist and wet soils provide a preferred environment for many root diseases. This environment occurs naturally in soils or as a result of compaction and/or presence of a heavy subsoil, which slows down the movement of water. Generally, soils that have a high content of clay (more than 35 percent) in the subsoil (B horizon) or substratum (C horizon) have slower internal drainage, creating an environment conducive to the susceptibility of diseases. Examples are soils that have a high water table (poorly drained or somewhat

Figure 73.—Effect of Swiss needle cast on trees.

poorly drained), soils that are subject to surface ponding for long periods of time, and soils that have a restrictive layer, such as a claypan, that perches water. Trees planted in wet areas commonly are more susceptible to diseases; however, wet areas will not necessarily be affected by a disease, as many micro-organisms in nature will take advantage of a favorable environment.

Invasive species, introduced plants, insects, and diseases are concerns in the survey area because natural control mechanisms to keep them in check have not evolved in the environment. With no natural enemies to control them, they have the

Figure 74.—Effect of Swiss needle cast on needles.

potential to spread nearly uncontrollably. Without abatement, they can become very aggressive and crowd out, kill, or greatly diminish the populations of native plants or insects. Introduced plants are more aggressive in growth and seed production than the native species and thus are difficult to control.

Insects that attack forests are always present. Most insect populations occur at endemic levels, annually killing scattered trees. Beetle attacks are common, infesting and killing small numbers of single trees or groups of trees. Healthy trees commonly can fight off a light beetle attack by sensing the intruding beetles and initiating a defensive mechanism. Pitch stops the movement of beetles in the tree and then carries them out of the tree as it is exuded. Weak or dying trees cannot fight off an attack and generally succumb quickly. If a moderate to high number of beetles attack a tree, it generally will succumb. Examples of the most common beetles include Douglas-fir bark beetle (*Dendroctonus pseudotsugae*), fir engraver beetle (*Scolytus ventralis*), and spruce bark beetle (*Dendroctonus rufipennis*).

The tables described in this section can help forest owners or managers plan the use of soils for wood crops. They show the potential productivity of the soils for wood crops and rate the soils according to the limitations that affect various aspects of forestland management.

Forestland Productivity

In table 7, the *potential productivity* of merchantable or *common trees* on a soil is expressed as a site index and as a volume number. The *site index average* is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The *site index standard deviation* is a measure of the statistical dispersion of the plot site index data. The standard deviation is only given if three or more plots were used to calculate the average site index. The site index

applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that forest managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability. More detailed information regarding site index is in the "National Forestry Manual," which is available in local offices of the Natural Resources Conservation Service or on the Internet.

The *NRCS ADP number* is a unique identifier of the site index curve and reference used to determine the site index of the tree species.

The *site index base age* is the age of the tree species (commonly 50 or 100 years) used to express the site index value (height).

The *volume of wood fiber (CMAI)*, a number, is the yield likely to be produced by the most important tree species. This number, expressed as cubic feet per acre per year and calculated at the age of culmination of the mean annual increment (CMAI), indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

The *CMAI age* is the age at which the highest annual growth rate occurs.

Absence of data in table 7 means that the soil is not forested or used for commercial timber production and therefore data were not collected; the soil is forested in places or used for commercial timber production, but data were not collected and therefore only the common trees are listed; or the soil is forested or used for commercial timber production, but only minimal data that did not meet the National standards were collected and therefore only the common trees are listed.

Forestland Management

In tables 8 through 12, interpretive ratings are given for various aspects of forestland management. The ratings are both verbal and numerical.

Some rating class terms indicate the degree to which the soils are suited to a specified aspect of forestland management. *Well suited* indicates that the soil has features that are favorable for the specified management aspect and has no limitations. Good performance can be expected, and little or no maintenance is needed. *Moderately suited* indicates that the soil has features that are moderately favorable for the specified management aspect. One or more soil properties are less than desirable, and fair performance can be expected. Some maintenance is needed. *Poorly suited* indicates that the soil has one or more properties that are unfavorable for the specified management aspect. Overcoming the unfavorable properties requires special design, extra maintenance, and costly alteration. *Unsuited* indicates that the expected performance of the soil is unacceptable for the specified management aspect or that extreme measures are needed to overcome the undesirable soil properties.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the specified aspect of forestland management (1.00) and the point at which the soil feature is not a limitation (0.00).

Rating class terms for fire damage and seedling mortality are expressed as *low, moderate,* and *high*. Where these terms are used, the numerical ratings indicate gradations between the point at which the potential for fire damage or seedling mortality is highest (1.00) and the point at which the potential is lowest (0.00).

The paragraphs that follow indicate the soil properties considered in rating the soils. More detailed information about the criteria used in the ratings is available in the "National Forestry Manual," which is available in local offices of the Natural Resources Conservation Service or on the Internet (http://soils.usda.gov/technical/nfmanual).

Construction of Haul Roads and Log Landings

Description:

Ratings reflect limitations for constructing haul roads and log landings.

Ratings assess the following:

- Earthmoving activities to meet standards and specifications for haul roads and log landings.
- Excavating, removal, and shaping of native soil material to develop haul roads and log landings for forest harvesting and other management activities.
- Cuts and fills less than 10 feet in depth.
- Use of bladed crawler tractors, excavators, graders, and other primary construction equipment.
- Year-round water table, year-round ponding, and permafrost.
- Frequency and duration of flooding.

Ratings assume the following:

- Construction activities occur during customary periods for the local area.
- Roads are as much as 1 mile in length with as much as a 20-foot-wide running surface.
- Ratings do not assess the following:
- Snow-covered soils.

Rating classes (Crisp):

- Slight—few if any limitations to construction activities.
- Moderate—one or more limitations that cause some difficulty.
- Severe—one or more limitations that make construction of roads or log landings very difficult or costly.

Suitability for Log Landings

Description:

- Ratings reflect the suitability of the soil at the forest site to serve as a log landing.

Ratings assess the following:

- Efficient and effective use of equipment for the temporary storage and handling of logs.
- Use of grapple hooks, skidders, trucks, loaders, cable yarders, and other equipment.
- Activities that disturb 100 percent of the soil surface area with rutting, puddling, or displacement to a depth of as much as 18 inches.
- The landscape in its natural setting.
- Frequency and duration of flooding, ponding, and depth and duration of water table.

Ratings assume the following:

- Vegetation and debris is cleared from an area sufficient in size for the road or landing.

Ratings do not assess the following:

- Nonsoil obstacles such as slash.
- Frozen or snow-covered soil.

Rating classes (Crisp):

- Suited—little if any restrictions to suitability for roads or log landings.
- Moderately suited—one or more restrictions reduce the suitability of the site.
- Poorly suited—one or more restrictions generally make the use of the site very difficult or unsafe.

Soil Rutting Hazard

Description:
- Ratings indicate the hazard or risk of ruts forming in the upper soil layers by operation of forest equipment. Soil displacement and puddling (soil deformation and compaction) may occur simultaneously with rutting.

Ratings assess the following:
- The operation of equipment on forest sites (3 to 10 passes) when the soil moisture is near field capacity.
- Use of standard rubber-tired vehicles (nonflotation tires).
- Year-round water table at a depth of less than 12 inches.
- Soil displacement and puddling that may affect aesthetics, groundwater hydrology, and productivity of the site.

Ratings assume the following:
- Depth of ruts generally ranges from 2 to 24 inches and depends in part on the weight of equipment (including carried or pulled loads) and shape and size of wheels.
- Lack of organic material or vegetation on soil surface.
- Conditions occur on soils that have slopes and other characteristics that allow for use of ground-based equipment.

Ratings do not assess the following:
- Impact of rutting on sloping sites that may channel surface water and affect hydrology.
- Frozen soil within a depth of 24 inches of the surface.

Rating classes (Crisp):
- Slight—little if any rutting occurs.
- Moderate—rutting likely to occur.
- Severe—rutting readily occurs.

Hazard of Off-Road or Off-Trail Erosion

Description:
- Ratings indicate the hazard or risk of soil loss from off-road and off-trail areas after activities that expose the soil surface.

Ratings assess the following:
- Sheet and rill erosion from exposed soil surfaces caused by various silvicultural practices, grazing, mining, fire, firebreaks, and other disturbances.
- Activities that disturb the site resulting in 50 to 75 percent bare ground in the affected area.
- Use of any type or size of equipment and uncontrolled grazing by livestock.

Ratings assume the following:
- Fifty to seventy-five percent exposed, roughened mineral surface layer.

Ratings do not assess the following:
- Clean tillage and other similar activities that disturb as much as nearly 100 percent of the area and change the characteristics of the soil.
- Histosols.
- Individual precipitation or storm events.
- Impact of gully erosion.
- Sediment production/delivery ratio or streambank or streambed erosion for watercourses on the site.
- Effect of ground-disturbing activities on the amount of surface or subsurface water runoff.

Rating classes (Crisp):
- None—no erosion hazard associated with this activity.
- Slight—erosion is unlikely under ordinary climatic conditions.
- Moderate—some erosion is likely; control measures may be needed.
- Severe—erosion is very likely; control measures for re-establishment of vegetation in bare areas and structural measures are advised.
- Very severe—significant erosion is expected; loss of soil productivity and off-site damage are likely; control measures are costly and generally impractical.

Erosion Hazard on Roads and Trails

Description:
- The hazard or risk of soil loss from unsurfaced roads and trails.

Ratings assess the following:
- The ability of natural precipitation to dislodge and move soil materials on roads, trails, and firebreaks.
- Activities on roads and trails that result in bare ground, compaction, and reshaping of the soil surface.
- Use by trucks, skidders, off-road vehicles, and other equipment.
- The impact on compacted, bare road and trail surfaces using the representative value for slope gradient of the soil component.

Ratings assume the following:
- Roads and trails are generally linear, continuous, and narrow ranging to as much as 25 feet in width.

Ratings do not assess the following:
- Frozen or snow-covered soil.

Rating classes (Crisp):
- No erosion hazard—no erosion hazard associated with this activity.
- Slight—little if any erosion is likely.
- Moderate—some erosion is likely; occasional maintenance may be needed; simple erosion-control measures needed.
- Severe—significant erosion can be expected; roads require frequent maintenance; costly erosion-control measures are needed.

Suitability for Roads (Natural Surface)

Description:
- Suitability for using the natural surface of the soil for roads for use by trucks to transport logs and other wood products from the site.

Ratings assess the following:
- The efficient and safe transport of forest products from the site.
- The landscape in its natural setting.
- Frequency and duration of flooding, ponding, and depth and duration of water table.
- Use of trucks ($^1/_2$-ton to log-transport capability).
- Activities that disturb 100 percent of the soil surface area with rutting, puddling, or displacement to a depth of as much as 18 inches.

Ratings assume the following:
- Vegetation and debris is cleared from an area sufficient in width for the road.
- Using the natural setting of the soil without cut and fill construction.
- Slopes are less than 20 percent.
- Use occurs during customary periods for the local area.

- Roads generally are less than 1 mile in length with as much as a 20-foot-wide running surface.

Ratings do not assess the following:
- Nonsoil obstacles such as slash.
- Frozen or snow-covered soil.

Rating classes (Crisp):
- Suited—few if any restrictions for roads.
- Moderately suited—one or more restrictions reduce site suitability.
- Poorly suited—one or more restrictions generally make the use of the site for a natural road very difficult or unsafe.

Suitability for Hand Planting

Description:
- Ratings indicate the expected difficulty of hand planting.

Ratings assess the following:
- Activities that include the proper placement of the root systems of tree and shrub seedlings to a depth of as much as 12 inches.
- Use of bareroot stock, tublings, containerized stock, and cuttings.
- Use of spades, dibbles, planting bars, or other planting tools.
- Year-round water table and ponding.

Ratings assume the following:
- Necessary site preparation is completed before hand planting.
- Planting activities occur during customary periods for the local area.

Ratings do not assess the following:
- Nonsoil obstacles such as slash.
- Use of human-held equipment such as power augers.
- Human-caused compacted layers from harvesting or other site activities. Only natural restrictive layers are considered.
- Frozen or snow-covered soil.

Rating classes (Crisp):
- Well suited—few if any restrictions to hand planting; planting rates are not affected.
- Moderately suited—one or more restrictions impede planting and reduce planting rates.
- Poorly suited—one or more restrictions severely impede planting and reduce planting rates.
- Unsuited—site factors and features prevent the proper hand planting of seedlings.

Suitability for Mechanical Planting

Description:
- The difficulty of planting trees or shrubs using a mechanical planter.

Ratings assess the following:
- Activities that include the proper placement of the root systems of tree and shrub seedlings to a depth of as much as 12 inches.
- Use of bareroot stock, tublings, containerized stock, and cuttings.
- Year-round water table and ponding.
- Use of mechanical planters that create narrow furrows or trenches to a depth of 12 inches and on the contour or across the slope.
- Use of mechanical planters on a 3-point hitch with coulter, shank, or trench shoe and packing wheel pulled by sufficiently powered equipment.

Ratings assume the following:
- Planting activities occur during customary periods for the local area.
- Necessary site preparation is completed before mechanical planting.

Ratings do not assess the following:
- Nonsoil obstacles such as slash.
- Human-caused compacted layers from harvesting or other site activities. Only natural restrictive layers are considered.
- Frozen or snow-covered soil.

Rating classes (Crisp):
- Well suited—few if any restrictions to mechanical planting; planting rates are not affected.
- Moderately suited—one or more restrictions impede planting and reduce planting rates.
- Poorly suited—one or more restrictions severely impede planting and reduce planting rates.
- Unsuited—site factors and features prevent mechanical planting of seedlings.

Suitability for Use of Harvesting Equipment

Description:
- The suitability for operating harvesting equipment.

Ratings assess the following:
- Off-road transport or harvest of logs and/or wood products by ground-based wheeled or tracked equipment.
- Use of standard rubber-tired skidders and bulldozers used for ground-based harvesting and transport.
- Activities that disturb from 35 to 75 percent of the surface area with rutting, puddling, or displacement to a depth of as much as 18 inches.
- Year-round water table and ponding.

Ratings assume the following:
- Activities occur during customary periods for the local area.

Ratings do not assess the following:
- Nonsoil obstacles such as slash.
- Frozen or snow-covered soil.

Rating classes (Crisp):
- Well suited—few if any restrictions to equipment operability.
- Moderately suited—one or more restrictions reduce the effective and safe use of equipment.
- Poorly suited—one or more restrictions make the use of equipment impractical or unsafe.

Suitability for Mechanical Site Preparation (Surface)

Description:
- Ratings indicate the suitability of using surface-altering soil tillage equipment.

Ratings assess the following:
- Activities that include modifying the soil surface to prepare the site for planting or seeding.
- Activities that treat as much as 50 to 75 percent of the site to a depth of 12 inches.
- Features and characteristics from the surface to a depth of 12 inches.

- Use of brush rakes, chisels, disks, and other types of implements pulled by bulldozers or tractors (D6/D7, 150 horsepower tractor or equivalent).
- Year-round water table and ponding.

Ratings assume the following:
- Activities for such work occur during customary periods for the local area.

Ratings do not assess the following:
- Nonsoil obstacles such as slash.
- Human-caused compacted layers from harvesting or other site activities. Only natural restrictive layers are considered.
- Frozen or snow-covered soil.

Rating classes:
- Suited—few if any restrictions to surface mechanical site preparation.
- Poorly suited—one or more restrictions limit the effective and safe use of equipment.
- Unsuited—one or more restrictions generally prevent the effective and safe use of equipment.

Suitability for Mechanical Site Preparation (Deep)

Description:
- Ratings indicate the suitability of using deep-soil tillage equipment.

Ratings assess the following:
- Activities that include subsoiling, ripping, and other subsurface soil disturbance across the slope.
- Activities that treat as much as 50 to 75 percent of the site to a depth of 36 inches to break up restrictive or compacted layers and increase infiltration for plant growth.
- Features and characteristics from the surface to a depth of 36 inches.
- Use of rippers, subsoilers, and other implements pulled by bulldozers (D8 or equivalent) that till at a depth of more than 12 inches.
- Year-round water table and ponding.
- Ratings assume:
- Activities occur during customary periods for the local area.

Ratings do not assess the following:
- Nonsoil obstacles such as slash.
- Human-caused compacted layers from harvesting or other site activities. Only natural restrictive layers are considered.
- Frozen or snow-covered soil.

Rating classes (Crisp):
- Suited—few if any restrictions to deep mechanical site preparation.
- Poorly suited—one or more restrictions limit the effective and safe use of equipment.
- Unsuited—one or more restrictions generally prevent a sufficient level of deep mechanical site preparation.

Potential for Damage to Soil by Fire

Description:
- The potential hazard of damage to soil nutrient, physical, and biotic characteristics from fire.

Ratings assess the following:
- The impact of fires (prescribed or wildfire) of moderate fireline intensity (116 to 520 btu’s/sec/ft) that provide the necessary heat to remove the duff layer and consume soil organic matter in the surface layer.

Ratings assume the following:
- Soils that have a shallow surface layer do not have the capacity to safely absorb the effects of fire.
- Steep slopes are more likely to erode if the protective duff layer is removed.
- Soil texture and rock fragment content relate to soil erodibility, vegetative recovery rate, and vegetative productivity.
- Medium textured soils, with their higher inherent available water capacity, are more likely to be cooler and have a higher productivity potential.
- Soils that have a high content of rock fragments transmit heat to a greater depth in a shorter period of time.
- Soils that have less than 2 percent organic matter content are more resistant to sheet and rill erosion and have a higher available water capacity.

Ratings do not assess the following:
- The time of year in which the fire occurs (winter versus summer).
- Fuel moisture content or volume.
- Weather conditions.

Rating classes (Crisp):
- None—no impact to soil characteristics is expected.
- Low—little negative impact to soil characteristics is expected.
- Moderate—negative impact to soil characteristics may occur.
- High—negative impact to soil characteristics is expected.

Potential for Seedling Mortality

Description:
- The likelihood of death of naturally or artificially propagated tree seedlings, as influenced by soil characteristics, physiographic features, and climatic conditions.

Ratings assess the following:
- The impact of soil characteristics, physiographic features, and climatic conditions on the survivability of newly established tree seedlings.

Ratings assume the following:
- Site preparation is adequate for the establishment of tree seedlings.
- Artificially propagated tree seedlings are of adequate size and quality, are adapted to the site, are planted at the proper time with respect to moisture and temperature to ensure initial root growth, and proper planting techniques are used.
- Near normal monthly and yearly climatic conditions.

Ratings do not assess the following:
- Effects of overstory tree canopy more than 15 feet in height.
- Effects of adjacent competing plants less than 15 feet in height.
- Effects of seedling pests such as rodents, herbivores, and insects.

Rating classes (Crisp):
- Low—seedlings are expected to develop normally and become established.
- Moderate—root development is sufficiently retarded to cause death of some seedlings (as many as 1 in 3) and establishment of surviving seedlings is delayed.
- High—seedlings are not expected to survive (at least 2 in 3 die) unless special treatment or management is applied.

Plant Community Classification

The survey area ranges from the beaches and dunes adjacent to the Pacific Ocean on the western margin to the forested crest of the northern Oregon Coast Range on

the eastern edge of Tillamook County. The area spans several soil temperature zones. The majority of the area is in the wetter part of the Coast Range. Along the crest of the mountains, on the far eastern edge of the survey area, are drier plant communities. These are a result of the transition to the rainshadow at the crest of the Coast Range and the warming influence of the Willamette Valley to the east. The eastern edge of the survey area transitions to the less maritime climate zones and plant communities.

Several references were used in correlating the soils in the survey area to vegetation zones and plant association groups. The “Field Guide to the Forested Plant Associations of the Northern Oregon Coast Range” (McCain and Diaz, 2002), the “Riparian Plant Communities of Northwest Oregon” (McCain, 2004), and the updated “High Elevation Plant Associations of the Northern Oregon Coast Range” (McCain, 2009) were used for the soils east of the beaches and dunes. The “Plant Associations of the Oregon Dunes National Recreation Area” (Christy and others, 1998) was also used for correlating the soils on the beaches, dunes, tidal flats, and estuaries. The “Pacific Northwest Ecoclass Codes for Seral and Potential Natural Communities” (Hall, 1998) provides a list of codes that identify various vegetation resources in the Pacific Northwest. The codes encompass three parts—potential natural community (PNC), seral status, and vegetation structure. Definition of the codes used for plant associations, plant association groups (subseries), and series in Forest Service Region 6 are available at http://ecoshare.info/products/code-sets/.

The sections “How This Survey Was Made” and “Survey Procedures” include a description of the levels of intensity of soil mapping used for this survey area. Different levels of plant classification were recognized and correlated according to the levels of intensity of mapping. The soil scientists used the various plant association field guides to assist in placing soil components of a map unit or an entire map unit into a group of similar plant associations known as plant association groups (PAGs).

The PAG classification scheme is useful in identifying potential ecosystems throughout the northern Oregon Coast Range, especially those whose floral characteristics indicate minimal human disturbance. These potential ecosystems reflect the probable plant community under optimal conditions without unnatural disturbances, or “late seral” plant communities. PAGs in the Pacific Northwest are created from a potential natural vegetation (PNV) modeling process that uses digital elevation data, climate data, and other factors, which can include fog and site moisture, to provide predicted potential natural vegetation information for forest management activities and geographical information system (GIS) analysis of forest resources for future planning. Field descriptions, notes, and observations along with vegetation plots were used by forest ecologists for the classification update and modeling of higher elevation coastal PAGs in the northern Oregon Coast Range.

Naming conventions for plant associations and plant association groups represent communities along moisture and/or temperature gradients, recognized as climatic limitations. The modifiers can include wet, dry, moist, or mesic (for plants). Native plant communities are classified by ecologists into three broad categories based on the moisture conditions—xeric, or dry; hydric, or wet; and mesic, or moist. In the context of naming conventions, the mesic modifier refers to a habitat that is well drained but generally is moist throughout most of the growing season. It is characterized by intermediate moisture conditions, neither wet nor dry.

Three major vegetative zones were recognized in the survey area. Beginning on the western margin of the county and progressing inland to the eastern edge of the county, they are the Sitka spruce zone, the western hemlock zone, and the Pacific silver fir zone. The Sitka spruce zone correlates with the isomesic and isofrigid soil temperature regimes. The Pacific Ocean has a strong moderating influence on climate. The warm ocean winds inhibit the diurnal fluctuations in temperature, resulting in a warmer and moister environment for plants.

The coastal dunes are in the Sitka spruce zone. The shore pine-Douglas-fir/wax myrtle-evergreen huckleberry (CLC201) plant association is in areas where shore pine and Douglas-fir occur together with Sitka spruce. The shore pine-Sitka spruce/ evergreen huckleberry (CLC601) plant association is in areas where shore pine and Sitka spruce occur together. The shore pine/bearberry (CLS301) plant association is in areas where shore pine is the dominant tree species. The rolling dune open lodgepole/kinnikinnick-hairy manzanita (CDS312) plant association is in areas that support scattered shore pine along with other drought-tolerant species such as kinnikinnick and hairy manzanita. Plant associations CLC201 and CLC601 have been correlated into the Sitka spruce/salal-mesic (901) PAG, and plant associations CLS301 and CDS312 have been correlated into the Sitka spruce/dry non-forest (971) PAG.

These plant associations and plant association groups are in the Sitka spruce zone because of the limited available water capacity of the sand that makes up the dunes and the dominant influence of the salt spray. Many studies of the coastal plant communities have shown that salt spray is an important natural selective non-biotic factor. Salt-sensitive species can be eliminated entirely from areas with high salt spray, different levels of salt spray tolerance among plant species can result in vegetation zonation (distribution of plants into distinct groupings of species governed by climatic conditions), and plants that are adapted to salt spray grow close to the ocean and are replaced by less salt-resistant plants farther inland.

Estuaries, tidal flats, and salt marshes; fluviomarine and marine terraces; and coastal headlands, hills, and mountains are also in the Sitka spruce zone.

The western hemlock zone is inland from the Sitka spruce zone, and it represents the most extensive group of plant associations in the survey area. It is correlated to the mesic and frigid soil temperature regimes. The warming effect of the ocean winds decreases and the diurnal fluctuation in temperature increases with the increasing elevation of the interior mountainous landforms. At an elevation of about 1,600 to 3,000 feet, the air temperature affects changes in the understory vegetation. Alaska huckleberry begins to occur consistently while other shrubs decrease in abundance or are absent. The steep, rugged, deeply dissected interior mountains typify the western hemlock zone. At elevations of 2,800 to 3,700 feet, on the dominant ridges and peaks of the interior mountains, the air temperature is cold enough to support Pacific silver fir forest communities. Establishment of these forest communities takes so long that noble fir is the dominant species in most of these true fir associations in the Oregon Coast Range, but over a much longer period of time silver fir will become dominant in the climax plant community.

Plant association groups are organized so that similar plant associations are correlated to similar soil temperature and soil moisture regimes. In many instances, all components of a particular map unit can be correlated to a single PAG. For example, all of components of the frigid soils in the survey area are correlated to the western hemlock/Alaska huckleberry/oxalis (1909) PAG and all of the cryic soils are correlated to the Pacific silver fir/oxalis-high precipitation (2208) PAG. The management considerations and activities for all the soils in each PAG generally are similar. In some instances, however, the soil components in a map unit are correlated to different PAGs. In areas where this occurs, a phase of the soil component is identified. For example, Dystrudepts, warm, are correlated to the western hemlock/oxalis-swordfern-moist (1907) PAG and Aquepts, warm, and Humaquepts, warm, are correlated to the western hemlock/salmonberry-wet (1908) PAG. Another example is the Mulkey series in the cryic zone. It is correlated to the Pacific silver fir/non-forest, other (2281) PAG since it is in open grassland areas where fire and management have kept the trees from encroaching.

Several plant associations occur within a PAG. In plant associations, a climax series generally is named for the most shade-tolerant tree species that is capable of

reproducing in that environment. Since the plant association level was not recognized in the mapping of the survey area, an effort was made to correlate to the PAG level to maintain some consistency with management interpretations. In the areas mapped at the Order 2 (most detailed) and Order 3 (intermediate detail) levels of intensity, plant association groups are correlated to the soil map unit components, which are primarily soil series but also include some soils mapped at the great group and subgroup levels.

Forestland soils generally have an overstory canopy cover of 25 percent or more. In this survey area, however, some of the forested soils in areas mapped at the Order 2 level have been cleared of trees and converted to pasture. For these areas, specialists studied the remnant areas still under native vegetation to correlate the areas to a particular plant association group. In many instances, only 3 to 5 plots that supported native plant communities were available for the collection of data.

The plant association groups for each soil in the survey area are given in the section “Detailed Soil Map Units” and in table 13.

Plant Association Groups

Three broad climatic and vegetative zones are recognized in the survey area—the Sitka spruce climax zone, western hemlock climax zone, and Pacific silver fir climax zone.

Sitka Spruce Climax Zone

This zone includes all of the areas that were mapped at the Order 2 level and many of those mapped at the Order 3 level. The soils typically have an isomesic or isofrigid soil temperature regime and a udic soil moisture regime. The plant association groups in this zone are:

- Sitka spruce/salal-mesic (901)
- Sitka spruce/oxalis, swordfern-moist (902)
- Sitka spruce/salmonberry-wet (903)
- Sitka spruce/dry non-forest (971)
- Sitka spruce/wet non-forest (991)

Western Hemlock Climax Zone

This zone includes most of the areas mapped at the Order 3 level. The soils typically have a mesic or frigid soil temperature regime and a udic soil moisture regime. The plant association groups in this zone are:

- Western hemlock/Oregon grape-salal (1906)
- Western hemlock/oxalis-swordfern-moist (1907)
- Western hemlock/salmonberry-wet (1908)
- Western hemlock/Alaska huckleberry/oxalis (1909)

Pacific Silver Fir Climax Zone

This zone includes the areas at the highest elevations in the survey area and some of the areas mapped at the Order 3 level. The soils typically have a cryic soil temperature regime and a udic soil moisture regime. The plant association groups in this zone are:

- Pacific silver fir/oxalis-high precipitation (2208)
- Pacific silver fir/non-forest, other (2281)

Recreation

Recreation is important to the economy of Tillamook County. The natural resources of the county, including the soils, are used for a wide variety of recreational activities.

The major physical features are the rocky and irregular coastline, stretches of coastal lowlands, and heavily timbered mountains, which comprise the main span of the Coast Range. With 75 miles of coastline, four bays, and nine rivers, recreational opportunities are numerous. The county encourages tourism and has many public recreational facilities and special events that cater to tourists. Besides camping areas, there are a number of motels and resorts to accommodate visitors.

Tillamook County is on the northern Oregon Coast, between the Coast Range and the Pacific Ocean. The area is considered by many to have some of the most spectacular scenic beaches with amazing sunrises and sunsets and beachcombing opportunities. It also provides some of the best opportunities for fishing on the Oregon Coast, with its pristine rivers and adjacent ocean waters. The local bays also provide opportunities for activities such as boating, fishing, crabbing, and clamming. Five major rivers flow into Tillamook Bay, thus fishing is outstanding. Charter boats for crabbing and deep sea fishing are available. Commercial fishermen operate out of the Port of Garibaldi and Pacific City. Commercial oyster farms are in Tillamook Bay and Netarts Bay. The major towns include Manzanita, Nehalem, and Rockaway in the northern part of the county; Garibaldi, Tillamook, and Netarts in the central part; and Hebo, Cloverdale, and Pacific City in the southern part. Oswald West State Park and Nehalem Bay State Park in the northern part of the county; Munsoncreek Falls, Cape Meares Lighthouse, and Cape Lookout State Park in the central part; and Sand Lake Recreational Area, Cape Kiwanda, and Cascade Head in the southern part provide park facilities and campgrounds; areas for fishing, hunting, wildlife viewing, and hiking; off-road vehicle trails; and areas for beachcombing.

Outdoor recreationalists can enjoy fishing and hunting, boating, camping, hiking, biking (both road and mountain biking), bird watching, and horseback riding in the survey area. Several farms and stables provide trails for horseback riding. Other recreational opportunities include touring by automobile or hiking the Oregon Coast Trail, exploring the numerous tide pools, whale watching or storm watching, agate hunting, and jetty, river, and surf fishing. Hang gliding, kayaking, scuba diving, windsurfing, and canoeing also can be enjoyed. Many public and private facilities provide recreational activities such as golfing and areas for running.

Many Federal, State, county, and private parks and campgrounds are open to the public. The camping facilities provide a range of recreational opportunities, from backpacking areas to recreational vehicle parks with full hook-ups. A few roads and other areas can be used for off-road vehicles and other recreational activities.

There are many recreational opportunities in the coastal margin in the western part of the county, including beaches (fig. 75), sand dunes in the Sand Lake Recreation Area, and rivers and bays, and in the State and Federal forest land in the interior part of the county. Activities include salmon and steelhead fishing, canoeing, kayaking, rafting, pleasure boating, hiking along the rivers, or picnicking at one of the many day-use areas. Trout fishing and swimming are common in many of the streams and creeks adjacent to these rivers.

The Sand Lake Recreation Area is along the northern coast of Oregon. It is a few miles north of Pacific City and 15 miles southwest of Tillamook, between Cape Lookout and Cape Kiwanda. It includes 1,076 acres of open sand dunes bordered on three sides by mixed conifer forests and on the west by the Pacific Ocean. The sand dunes begin at the estuary and extend to the northeast about 3.5 miles. The dunes are bordered on three sides by mixed conifer forests and on the west by the Pacific Ocean. The area offers a variety of recreational opportunities, one of the most popular being use of off-road vehicles in the many miles of open sand dunes. Campgrounds and day-use areas are open year round (fig. 76). The Sand Lake Estuary, adjacent to the recreation area, provides opportunities for fishing, swimming, crabbing, kayaking, hiking, and wildlife viewing. The near-natural state of this 900-acre estuary provides habitat for many species of waterfowl.

Figure 75.—People enjoying the beaches in Tillamook County.

Figure 76.—The Sand Lake Recreation Area is used for riding off-road vehicles.

The mountainous areas of the interior part of Tillamook County provide opportunities for hunting big game and upland birds as well as other recreational uses such as camping, hiking, mountain biking, or off-road dirt biking on maintained trails in the Tillamook State Forest (fig. 77). This State forest offers some of the best off-road

Figure 77.—Bicycling through the Tillamook State Forest.

vehicle trails in the Pacific Northwest. The Browns Camp, Jordan Creek, and Diamond Mill off-road vehicle areas provide more than 130 miles for riding through some of the more scenic areas of the forest. The Browns Camp and Jordan Creek areas include trails for motorcycles and all-terrain vehicles that range from easy to extremely challenging. The trails in the Diamond Mill area are mainly technical single-track trails for motorcycle use only. The Browns Camp, Jordan Creek, and Diamond Mill campgrounds and staging areas also provide areas for overnight and day use.

A scenic section of U.S. Highway 101 passes through Tillamook County and connects with State Highway 6, which runs through the Tillamook State Forest to the Portland metropolitan area. In the heart of the Tillamook Burn, the Tillamook Forest Educational Center focuses on forest-based learning to help the public develop a deeper knowledge and understanding of Oregon's forests and their history. Visitors can explore hiking trails, a 250-foot-long suspension bridge, and a 40-foot-tall replica of a lookout tower. Educational and interpretive exhibits emphasize the history of the Tillamook Burn and its effect on present forest management practices.

A variety of wildlife throughout the county can be observed, photographed, and hunted. Among them are black-tailed deer; Roosevelt elk; black bear; migratory waterfowl; upland game birds including quail, grouse, and wild turkey; band-tailed pigeon; bald eagle; osprey; ducks; doves; bobcat; mountain lion; beaver; muskrat; coyote; raccoon; river otter; amphibians; and reptiles. Neotropical migrant songbirds inhabit the forested areas on the northern coast. The various species of songbirds have their individual requirements for nesting habitat, so it is possible to find songbirds at almost any level of vegetation in the forest, especially in areas of abundant hardwood trees such as red alder and bigleaf maple.

Rogers Peak, at an elevation of 3,706 feet, is the highest point in Oregon's northern Coast Range. A few trails to the summit of this peak are available for

use by hikers. Munson Creek Falls, the highest waterfall in the Coast Range, is 7 miles south of Tillamook. There is a short trail to the base of the 266-foot-high falls and the nearby picnic area. An additional $^1/_2$-mile trail leads to the upper part of the falls and a viewing platform. Many interesting plants and animals can be observed from these areas.

Four National wildlife refuges are in the survey area—Cape Meares National Wildlife Refuge, Three Arch Rocks National Wildlife Refuge, Nestucca Bay National Wildlife Refuge, and Oregon Islands National Wildlife Refuge. All of these refuges are part of the Oregon Coast National Wildlife Refuge Complex, which consists of six National wildlife refuges along the Oregon Coast. Thousands of small islands, rocks, reefs, headlands, marshes, and bays, totaling 371 acres and spanning 320 miles of Oregon coastline, are protected by these National refuges. Stretching from Tillamook Head south to the California border, three of the refuges are marine (influenced by saltwater) and three are estuarine (influenced by saltwater and freshwater). The marine refuges (Cape Meares, Three Arch Rocks, and Oregon Islands) protect habitats that support some of the most important seabird nesting colonies in the United States. Over a million seabirds, including common murre, tufted puffin, cormorant, and storm-petrel nest in these areas. Coastal rocks provide breeding and haul-out sites for harbor seal and Stellar and California sea lions. All of the islands are closed to public access. Boats must remain at least 500 feet away from the islands, and aircraft must maintain a clearance of at least 2,000 feet. Cape Meares National Wildlife Refuge has 3 miles of hiking trails and a 1-mile walking trail through an old-growth forest of Sitka spruce and western hemlock. The Nestucca Bay National Wildlife Refuge preserves very different, but equally valuable, habitats that include areas of saltmarsh, brackish marsh, riparian wetland, and wooded upland. It provides habitat for a diverse variety of fish and wildlife, including waterfowl, shorebirds, birds of prey, small mammals, amphibians, and anadromous fish. This refuge has an observation area for the public to view wildlife. Several areas that have historical, botanical, and geological interest to the public are near all of the refuges. Other uses include photography and environmental education. A self-guided interpretive brochure has been developed for interested users.

The Tillamook County Water Trail was recently added to the National system of recreational trails across the United States. These national recreation trails provide a gateway to outdoor recreation in both urban and rural areas, allowing more of the public to enjoy the great outdoors. The Tillamook County Water Trail is a recreational water trail system that includes most of the rivers, sloughs, and bays in the county that are not open to motorized watercraft. It includes five unique estuaries and their associated watersheds with a total of 1,820 square miles of water. More than 250 bodies of water are navigable. The diversity of locales and scenery offers superior water-based recreational opportunities.

Tillamook County Parks Department operates six county campgrounds and parks, providing more than 574 campsites from Barview to Pacific City, 21 boat launches, and 10 day use areas throughout the county (http://www.co.tillamook.or.us/gov/parks/Default.htm). These facilities offer diverse camping opportunities and services, ranging from primitive camping to full hook-ups. They include handicap facilities, beach access, and areas for fishing and picnicking.

The Tillamook Cheese Factory is the most visited tourist attraction on the Oregon Coast. At the factory visitors center, the public can sample cheeses and watch the cheese-making process. A maritime museum, naval air museum, and county historic museum are also in the county.

South of Tillamook, on U.S. Highway 101, is an enormous hangar off in the distance to the east. This building is the largest clear span wooden structure in the world. It was used in World War II as a blimp hangar. The Tillamook airbase for blimps was commissioned on December 1, 1942, as the U.S. Naval Air Station. It was

decommissioned and closed after the war. This building currently houses the Tillamook Air Museum, which contains a collection of World War II fighter planes and blimps as well as photographs and memorabilia from the war. Tillamook and Yamhill Counties also hosted the Mt. Hebo Air Force Station, which played an important part in air defense during the Cold War from 1956 to 1980 (Oregon Blue Book, 2011-2012) (http://www.bluebook.state.or.us).

The Tillamook County Pioneer Museum is in the old courthouse building in downtown Tillamook. The museum includes logging memorabilia; a stagecoach; natural history dioramas; a fossil, rock, and mineral collection; pioneer and Native American artifacts; and many other interesting exhibits.

Trains provide an opportunity in summer for people to see the Tillamook County area and the beautiful Oregon Coast. The Oregon Coast Scenic Railroad and the Oregon Coast Steam Adventure offer various day trips to a variety of locations. The Scenic Railroad has a 1910 Heisler steam locomotive that runs between Garibaldi and Rockaway. The 1.5-hour round trip includes a layover in the town opposite the boarding location. The Steam Adventure runs a day trip from Garibaldi to Wheeler, Nehalem River Canyon, and on to Salmonberry, weather and track conditions permitting. Passengers lunch at the Nehalem Winery. This trip is a favorite of photographers because it winds through some of the most scenic areas in the county.

Wildlife Habitat

Wildlife habitat consists of areas with the combination of necessary resources—water, food, shelter, and environmental conditions—that allow a given species to survive and reproduce. Vegetation plays the key role in providing these basic biological needs. Major vegetation types, such as on forestland, shrubland, grassland, and wetland, typically attract wildlife species uniquely adapted to survive in each particular environment. Other resident species may thrive in a range of habitat types. The plant and animal species that each of these major vegetation types support are the measure of its biological diversity, which is the critical element in maintaining viable ecosystems (Loy and others, 2001). Native plant communities consist of a variety of vegetation, most of which is valuable to wildlife. Habitat for wildlife can be created or improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants.

Most of the county is mountainous and heavily timbered and is used mainly as forestland. The low hills, broad marine terraces, stream terraces, and flood plains of the coastal and interior river valleys have a wider variety of land uses, ranging from agriculture to urban and residential development. The temperature zones in the survey area range from those of the warm lower elevations adjacent to the Pacific Ocean to the cold higher elevations of the Coast Range. Such diverse environmental conditions provide many types of wildlife habitat that support an abundance of wildlife species.

The kinds and numbers of wildlife species in the survey area generally are related to the kinds of soils. This relationship is indirect, and it is influenced by the varied climatic zones, topography, land use, parent material, and plant communities. Oregon has a rich diversity of wildlife, including 426 species of native terrestrial vertebrates that breed in the State and 91 additional species that use the State as habitat in winter or during migration (Puchy and Marshall, 1993). Another 98 species occasionally are seen in Oregon, and 27 species have been introduced into the State. The total number of wildlife species in Oregon is 642, or more than 42 percent of all terrestrial vertebrates found in the United States and Canada (Csuti and others, 1997).

Despite this abundance of wildlife, the only comprehensive efforts to document the distribution, habitat, and natural history for most of the wildlife species are more than a decade to more than half a century old. Several recent efforts have been established

to update the knowledge and understanding of wildlife species and their habitat, review basic concepts and current thinking regarding these relationships, and provide data and new approaches that can be used in local, regional, and State planning (Johnson and O'Neil, 2001).

The present research evolved from of the initial efforts begun in 1988 by the National Biological Service, the Oregon Department of Fish and Wildlife (ODFW), the Oregon National Heritage Program (ONHP), and other cooperating agencies and organizations to determine the distribution of Oregon's biological diversity of vegetation cover and associated wildlife species. This research, known as Gap Analysis, was intended to provide wildlife managers the information needed to anticipate and prevent loss of biodiversity (Csuti and others, 1997). At least 133 vegetation cover types were recognized in this initial research, 14 of which are in Tillamook County (Kagan and Caicco, 1992; Kagan and others, 1999). These vegetation types were grouped into 30 wildlife habitat types recognized in Oregon (O'Neil and others, 1995). Six of these habitat types are in Tillamook County. Additional information, including availability of State map products, can be accessed from the Gap Analysis homepage at http://www.gap.uidaho.edu/.

Current research has synthesized the previous efforts with updated information, and now 32 wildlife habitat types are recognized, including 541 native breeding species and 119 Pacific Northwest vegetation, land use, and marine groupings (Johnson and O'Neil, 2001). Ten of these habitat types are in or adjacent to Tillamook County. They are listed in order generally from west to east (Loy and others, 2001).

- Bays and Estuaries
- Coastal Headlands and Islets
- Coastal Dunes and Beaches
- Open Water—Lakes, Rivers, Streams
- Herbaceous Wetlands
- Agriculture, Pastures, and Mixed Environs
- Urban and Mixed Environs
- Westside Riparian-Wetlands
- Westside Lowlands Conifer-Hardwood Forest
- Montane Mixed Conifer Forest

These ten habitat types have been correlated to the general soil map units in this survey area. Information on these habitat types and how they relate to the general soil map units is provided in the following paragraphs.

Bays and Estuaries

This habitat type is in areas where there is significant mixing of saltwater with freshwater, particularly at the mouth of rivers that empty into the Pacific Ocean or one of the bays along the coastal margin of the survey area (fig. 78). Examples are the Nehalem Bay, Tillamook Bay, Netarts Bay, and Nestucca Bay. These areas include intertidal sand and mud flats, such as in the Sand Lake Recreation Area; saltwater and brackish marshes and swamps; and open water areas of the many bays along the coast. Climate is tempered by the Pacific Ocean; therefore, it generally is mild and is characterized by cool, wet winters and cool, moist summers. Fog is common in summer. Elevation ranges from sea level to a few feet above sea level. Topography along the coastline is typified by long stretches of sandy beaches broken up by steep rocky cliffs and headlands, such as Cape Falcon and Cascade Head, and by the mouth of bays and estuaries. Typically, the underlying material in these areas is slightly organic material to totally organic material, silt, and sand. It varies in specific composition and distribution as the physical factors change.

This habitat type is adjacent to the Westside Riparian-Wetlands, Coastal Dunes and Beaches, Westside Lowlands Conifer-Hardwood Forest, and Coastal Headlands

Figure 78.—Example of an estuary where the mouth of the Miami River empties into Miami Cove adjacent to the Tillamook Bay, near Garibaldi. The estuarine map unit is Fluvaquents-Histosols complex, 0 to 1 percent slopes.

and Islets habitat types. Major uses of the bays and estuaries include recreation and tourism, the shellfish industry, and navigation. Water channels in many areas have been dredged for navigation of ships. Extensive areas of the more terrestrial component of this habitat, such as the sand and mud flats, have been converted to uses ranging from agricultural crop production and livestock grazing to residential and commercial development. Daily current and tidal fluctuations, riverine discharges and fluxes in salinity, mixing, and sedimentation strongly influence this habitat, creating areas ranging from tidal flats and salt marshes to highly branched estuarine channels and transitional marshes and swamps. Unconsolidated or consolidated tidal flats are composed of rock, gravel, sand, silt, clay, and abundant organic material. Inundated by daily tidal flows, the tidal flats may support eelgrass, various species of algae, and invertebrates. By stabilizing submerged tidal flats, eelgrass meadows provide a protected environment and structured habitat for various wildlife species. These meadows consist of eelgrass and other surfgrass species. Salt marshes form at the upper boundary of tidal flats and commonly support open- to closed-canopy grass or forb communities. Tidal flats bordering salt marshes commonly support vegetation such as pickleweed and arrowgrass. The dendritic estuarine channels drain across the salt marshes and tidal flats, creating a variety of niches for wildlife. Highly productive algae species, such as the blue-green, green, and rockweed types, are dominant in the estuarine channels. Farthest inland, transitional marshes form between salt marshes and upland areas that support dominantly grasses and woody plants. The transition to higher areas of the low salt marsh zone is indicated by the dominance of saltgrass and Lyngby's sedge. Major components of the middle and high salt marsh areas are salt-tolerant upland species such as alkaligrass, salt rush, tufted hairgrass, Pacific silverweed, and spreading bentgrass, which are diagnostic of areas that are subject to freshwater runoff and riverine discharge (fig. 79).

Figure 79.—Tidal flood plain of a high salt marsh, along the lower part of the Kilchis River. The plant community is dominantly tufted hairgrass and spreading bentgrass.

Natural disturbance tends to perpetuate the transitional nature of this type of habitat. Tidal fluctuations, seasonal river discharges after storm events, wind, and erosion are the primary natural processes that affect this habitat. Tides and wind push saltwater up into the system, causing varying degrees of mixing with incoming freshwater and creating vertical stratification of the habitat. River discharges and freshwater runoff vary seasonally with the amount of precipitation received. A high volume of freshwater enters the system in winter, and significantly less enters the system in summer. Short-term storm events produce dramatic variations in the physical condition of the habitat. Erosion or accretion may result from a strong oceanic current at the lower end (mouth) of the system or from increased freshwater discharges at the upper end (head).

The generalized pattern of successional stages in this habitat type begins with unconsolidated, barren tidal flats that support pioneer vegetation such as eelgrass. This vegetation is tolerant of extended tidal inundations and varies depending on the type of sedimentation. Sediment accretion and a gradual rise in the elevation of the land occurs, changing the environmental conditions and allowing other plants to become established. Arrowgrass and pickleweed can invade the emerging marsh, further stabilizing the underlying material. Saltgrass and sedges become established in the higher areas of the marsh, and as the initial colonizer plants die back, tufted hairgrass and salt rush may become prevalent.

The effects of management, water quality, contaminants, and land-use practices have altered much of this habitat. Dredging and filling of the marshes and tidal flats removes estuarine vegetation from the natural system. Channel flow, tidal inundation, and freshwater discharges are disrupted by construction of seawalls, jetties, dikes, and dams. Very little of the natural high salt marsh remains in Oregon as a result of diking for crop production and flood control. These practices also prevent natural recovery and re-establishment of this habitat type. Physical and chemical conditions of this habitat type are degraded by the discharge of municipal, industrial, and agricultural

effluents. Functioning plant and animal communities and ecosystems are altered or irreparably damaged by domestic and agricultural runoff of pesticides, herbicides, and fertilizers. Invasions of exotic plants and invertebrates pose significant, long-term ecological and economic threats to this habitat. Large tracts have been converted to coastal development. Land use activities in adjacent watersheds, such as logging, mining, and development of hydroelectric power, can have a negative impact on the estuarine and bay environments downstream.

Estuarine tidal flats and salt marshes are important hunting grounds for a variety of raptors, including falcons, harriers, and owls. The drift logs in these areas are used by raptors as hunting and resting perches. Some salt marshes provide important habitat for roosting shore birds and gulls and are used as haul-out areas for harbor seals. A wide variety of invertebrate species inhabit the waters of this habitat type.

Areas of general soil map unit 1 support the Bays and Estuaries habitat type. The tidal flats, intertidal sand and mud flats, and saltwater and brackish marshes are in areas of detailed soil map units such as Fluvaquents-Histosols complex, 0 to 1 percent slopes, and Histosols-Water complex, 0 to 1 percent slopes. The low, middle, and high salt marshes are in areas of map units such as Coquille silt loam, 0 to 1 percent slopes, and Fluvaquents-Histosols complex, 0 to 1 percent slopes, diked.

Coastal Headlands and Islets

This habitat type is in areas of grassland and shrubland and on rocky islands that are along the slopes and exposed headlands of the coastal part of the county and its adjacent nearshore islands. Examples include the Cape Meares, Three Arch Rocks, and Oregon Islands National Wildlife Refuges and Cascade Head. Environmental conditions can be extreme at times in this habitat zone, with damaging wind and rain from storms. Because of the wind and rain and abundant salt spray, tree growth is limited. Fog is common in summer. The climate typically is mild and is characterized by cool, wet winters and cool, moist summers. Elevation ranges from sea level to about 500 feet. Since this habitat type is mainly on coastal headlands, bluffs, and islands with steep slopes or cliffs, the soils generally are shallow to bedrock and have a high content of rock fragments. The soils are gently sloping to very steep. In some areas, seeps create niches of moist to wet microsites.

This habitat type is adjacent to the Pacific Ocean and is dominantly in small areas between the ocean and the Westside Lowlands Conifer-Hardwood Forest habitat type or is on small islands. Typically, it is in areas that consist of a mosaic of grassland, shrubland, and forbland and Rock outcrop. Native grasses may be short or tall. Dominant shrubs can also be short or tall and are evergreen or deciduous broadleaf species. Forbs or ferns can be dominant in some areas; coniferous trees commonly are scattered, in small clumps, or in patches consisting of short, wind-blasted trees.

The areas of grassland support dominantly species such as red fescue, blue wildrye, and Nootka reedgrass (fig. 80). Sitka brome can also be important. The habitat type supports a diversity of forbs, including goldenrod, giant vetch, horsetail, lomatium, and coastal wormwood. Brackenfern is co-dominant in most areas. The areas of shrubland support dominantly salal, evergreen huckleberry, salmonberry, California wax-myrtle, thimbleberry, and black twinberry. Sitka spruce is the most common tree, although western hemlock, Douglas-fir, and red alder may also be present.

Trees slowly invade some areas over time, but they are toppled or damaged because of the shallow rooting depth and strong winds. As trees become established, the abundance of herbaceous plants and shrubs declines. Livestock grazing of the grassland results in a decrease in native grasses, especially bunchgrasses, and an increase in exotic species such as sweet vernalgrass, common velvetgrass, and orchardgrass.

Figure 80.—Grassland on a coastal headland, such as Cascade Head.

This habitat type makes up a very small area relative to other habitat types in the survey area. The condition of the grassland generally is poor; it commonly supports a high percentage of non-native species.

In the marine Cape Meares, Three Arch Rocks, and Oregon Islands National Wildlife Refuges, the habitat that supports some of the most important seabird nesting colonies in the United States is protected. More than a million seabirds, including common murre, tufted puffin, cormorant, and storm-petrel, nest in areas of this habitat type. Coastal rocks provide breeding and haul-out sites for harbor seals and Stellar and California sea lions. Since most headlands and bluffs have very steep slopes or vertical cliff faces, these areas are used by ledge-nesting seabirds and species such as peregrine falcon. Other species, such as belted kingfisher, nest on coastal bluffs in areas where burrows can be excavated in the face of the escarpment. Snags and large trees on the headland faces are used as perching and nesting sites for species such as bald eagle. The shrub vegetation provides habitat for ground- and shrub-nesting birds such as winter wren and song sparrow. The low-lying bench areas are used as foraging sites by shorebirds, and the higher elevation areas (above the wave-splash zone) are used as nesting sites for black oystercatcher.

Areas of general soil map unit 6 support the Coastal Headlands and Islets habitat type. Examples include detailed soil map units Neotsu-Salander medial loams, 5 to 30 percent slopes, and Neskowin-Rock outcrop-Necanicum complex, 60 to 100 percent slopes.

Coastal Dunes and Beaches

This habitat type is exclusively along the coastal margin in the survey area. It includes beaches, foredunes, stabilized sand dunes, interdunal depressions, deflation plains, blowouts, spits, and sand dunes on the edges of adjacent marine terraces. The climate typically is mild and is characterized by cool, wet winters and cool, moist summers. Fog is common in summer. Elevation generally is at sea level and only extends to the tops of the highest dunes. The topography is gently rolling to strongly

rolling, dominantly north- to south-trending dune ridges and troughs. The sandy soils are deficient in nutrients and organic matter. They formed in sand carried by longshore drift and wind erosion. The dunes consist of several different types, including foredunes, transverse dunes, parabola dunes, and retention ridges.

This habitat type occurs in a mosaic pattern with the Westside Riparian-Wetlands, Westside Lowlands Conifer-Hardwood Forest, and Herbaceous Wetlands habitat types. The forests adjacent to this habitat type are on stabilized dunes and consist dominantly of shore pine and Sitka spruce. Wetland that supports woody, shrubby, and herbaceous plants are in areas of seasonally flooded deflation plains and dune troughs. Hooker’s willow and slough sedge are most common in these areas. The Coastal Dunes and Beaches habitat type also occurs in a mosaic pattern with the Urban and Mixed Environs habitat type, as coastal areas have been developed extensively for tourism and low-density residential use. Recreation is a major land use and includes the use of off-road vehicles in designated areas. The areas range from open sand with sparse vegetation to dense shrubland. Trees typically do not grow in these areas, but some scattered trees may be present. The unstabilized sand supports very little vegetation. Medium-tall grassland plant communities are on a major part of the current landscape, and tall broadleaf evergreen shrubs are also a significant component of the mosaic. Where vegetated, the unstabilized dunes support American dunegrass, dune bluegrass, and Chinook lupine. Red fescue was once a major plant species on the more stabilized dunes, but it has largely been replaced by European beachgrass, an introduced species that is now the most common dunegrass. Many forb species are confined mainly to dunes that support dominantly herbaceous plants. Salal and evergreen huckleberry are dominant in the areas of tall shrubland, but hairy manzanita, kinnikinnick, bush lupine, and California wax-myrtle may also be abundant. Scotch broom is an exotic shrub species that becomes dominant in disturbed areas. Scattered trees are mainly shore pine and some Sitka spruce.

Erosion and deposition of sand are the primary natural processes affecting this habitat type. Sand is deposited initially on beaches and then moved into dunes by wind. Wind also maintains the areas of unstabilized dunes. Major winter storms may result in blowouts that create holes in existing stabilized dunes, which in turn create new areas of sand deposition. The successional process graduates from newly deposited sand to completely stabilized dunes that support shrubs. Unstabilized sand, such as foredunes that support sparse European beachgrass, has the most open and herbaceous vegetation. Closing of the vegetational spacing typically results in stabilization of the sand. Recently stabilized dunes currently support dominantly European beachgrass; however, over time without a major disturbance, shrubs and/or trees will become established. Shrubland can be an intermediate stage in the succession toward forests. Pine woodland is another common intermediate stage. Pine woodland will become colonized with Sitka spruce or Douglas-fir and eventually become mixed pine-spruce or pine-Douglas-fir forestland. Because these areas can be returned to unstabilized sand by a blowout or reburial by dunes, a cyclic successional sequence is common.

European beachgrass has been planted extensively for stabilization, and it has spread widely. The physical forms of the dunes have also been altered by beachgrass, as stabilized dunes are not easily eroded and tend to remain in place instead of shifting with the wind. As a result, more forested areas are likely to become established.

This habitat type covers relatively limited areas, because large areas have been converted to other uses. The vast majority of the herbaceous vegetation that remains generally is in poor condition, and exotic species such as sweet vernalgrass, common velvetgrass, orchardgrass, and Scotch broom are dominant.

Parts of general soil map units 1 and 2 support the Coastal Dunes and Beaches habitat type. The foredunes, blowouts, spits, and sand dunes at the edge of adjacent

marine terraces are on soils such as Waldport soils, thin surface, and in areas of Dune land. The stabilized sand dunes are in map units associated with the Netarts and Waldport soils. The deflation plains are in map units associated with the Heceta soils, and the interdunal depressions and swales are in map units associated with the Yaquina soils.

Open Water—Lakes, Rivers, and Streams

This habitat type is throughout the survey area. The lakes, ponds, and reservoirs generally have been created through human efforts, such as the Rhodes and Trask River Rearing Ponds, water areas produced from gravel extraction or other types of excavations, and the multitude of farm and ranch ponds. Some lakes and ponds, such as Archer Pond near Ax Ridge, Blue Lake, Hebo Lake, Neahkahnie Lake, and Skookum Lake, were created when old channels, oxbows, or sloughs were obstructed or dried up enough to impound the remaining water because a drainage outlet was not available. Rivers and streams in the survey area generally are cold and productive, which is favorable for salmonid species. The major rivers and their tributaries support the greatest diversity of fish species and are used extensively by salmonids such as Chinook and Coho salmon and steelhead, rainbow, and cutthroat trout. Coastal water bodies are characterized by deep pools and highly embedded stream bottoms that have a claypan and muddy substrates. Rivers and streams in the Coast Range typically have more runs and glides with fewer pools. A variety of salmonid species, such as Chinook salmon, steelhead trout, and rainbow trout are in these waters. The overall productivity of the fisheries is dependent on the temperature and flow of water in the Pacific Ocean and from the higher elevations in the survey area and surrounding areas.

Lakes, ponds, and reservoirs commonly are adjacent to the Herbaceous Wetlands habitat type, and rivers and streams commonly are associated with or adjacent to the Westside Riparian-Wetlands habitat type. The major natural disturbance factors associated with this habitat type are the seasonal and decadal variations in precipitation and flooding. The anthropogenic impacts and effects of management activities are numerous. Municipal sewage effluent released into the bodies of water can cause eutrophication, where an increased amount of plant biomass decreases the transmission of light into the water or blocks it off entirely. This is a result of the unnaturally high concentration of nutrients, especially phosphates and nitrates, which promote excessive growth of algae. Decomposition of the algae depletes available oxygen, causing death of other organisms. Irrigation of drier areas of the landscape can result in flooding downstream. The natural salinity of lakes can decrease as irrigation water is drawn out, causing a change in the plants and animals associated with the lakes. Removal of gravel reduces spawning areas for anadromous fish. Overgrazing of riparian areas and loss of vegetation as a result of logging cause an increase in water temperature and excessive siltation of rivers and streams. Culverts may act as barriers to migrating fish and may contribute to erosion and siltation downstream. Construction of dams is associated with changes in water quality, changes in fish passage, competition among species, loss of spawning areas because of flooding, and a decline in native fish populations. Historically, the rivers and streams in the Tillamook Valley consisted of more braided multi-channels. Flood control measures, such as channel straightening, diking, or removal of streambed material, along with urban and agricultural development have contributed to a reduction in oxbows, sloughs, river meanders, and flood plains (Johnson and O’Neil, 2001).

Agricultural, industrial, and sewage runoff, which includes salts, sediment, fertilizer, pesticides, and bacteria, harm aquatic species. Timber harvesting practices such as clearcutting result in excessive intermittent periods of runoff and thus an increase in erosion and siltation of streams. These practices also diminish the amount of shade,

resulting in higher water temperatures, fewer terrestrial and aquatic food organisms, and increased predation.

Clearcuts also alter snow accumulation patterns and increase the size of peak flows during periods of snowmelt. Poorly designed forest roads can contribute to sedimentation of streams. The riparian vegetation along streams and rivers should be protected from excessive disturbance to maintain or improve water quality. Plant cover stabilizes streambanks and riverbanks, reduces water temperatures, and minimizes the deposition of sediment into rivers and streams.

Typical wildlife species include amphibians such as red-legged frog and Oregon spotted frog and reptiles such as painted turtle and western pond turtle. A variety of bird species including American dipper, bittern, heron, coot, killdeer, raptors such as eagles and ospreys, and waterfowl such as ducks and geese use this habitat type. Mammals such as American beaver, muskrat, and northern river otter also use this habitat type. It provides important breeding areas and travel corridors for amphibians, reptiles, waterfowl, and raptors.

All of the general soil map units in the survey area have areas of the Open Water—Lakes, Rivers, and Streams habitat type.

Herbaceous Wetlands

This habitat type is in permanently flooded areas that commonly are associated with oxbow lakes and abandoned sloughs in the survey area, including Dougherty Slough, Hall Slough, Hathaway Slough, Hoquartern Slough, and Tomlinson Slough. Seasonally flooded to semi-permanently flooded wetland is in areas where standing freshwater is present during part of the growing season and the soils remain saturated throughout the season. Typically, this habitat type is in flat to nearly level areas that have stream or river channels or open water areas. It commonly forms a pattern with the Westside Riparian-Wetlands habitat type along stream corridors. The climate is characterized by cool, wet winters and cool, moist summers. Fog is common in summer.

The Herbaceous Wetlands habitat type typically supports a mix of emergent herbaceous plants with a grasslike lifeform. Areas commonly are associated with deep water or shallow water areas that support floating or rooting aquatic forbs. Various wetland plant communities occur in mosaics or in nearly pure stands of a single species. Cattails are extensive, and several bulrush species occur either as almost pure stands or in mosaics with cattails and a variety of sedges. Aquatic beds are included in this habitat type, and they support a number of rooted aquatic plants, such as yellow pond lily, and unrooted, floating plants, such as pondweed and duckweed. Emergent herbaceous broadleaf plants, such as water parsley and bladderwort, grow in areas of permanent and semi-permanent standing water. Shrubs or trees are not common in this herbaceous habitat type, although willows or other woody plants may be along margins, in patches, or along streams.

Most wetlands are resistant to fire. If an area is dry enough to burn, fires commonly take place in fall. Since most wetland plants are sprouting species, they recover quickly. Beaver play an important role in creating ponds and other impoundments in areas of this habitat type (fig. 81). Trampling and grazing by large native mammals such as elk and deer is a natural process that creates patches that allow trees and shrubs to encroach and possibly establish successfully. Fire suppression can lead to invasion of woody species in the drier areas of this habitat type (Johnson and O'Neil, 2001).

Direct alteration of the hydrology, such as damming, and indirect alteration, such as road building, result in changes in the amount and pattern of this habitat type. Heavy livestock grazing or trampling causes a decrease in some plant species, such as aquatic sedges and tufted hairgrass, and an increase in others, such as several

Figure 81.—Area of wetland created by a beaver dam.

rushes, marsh cinquefoil, and many introduced species of grasses and forbs. This habitat type has been steadily declining in recent decades as agricultural and urban and residential land uses have become more dominant.

Representative wildlife species include amphibians such as tailed frog and western toad; reptiles such as painted turtle and western pond turtle; a variety of bird species including bittern, heron, coot, killdeer, red-winged and yellow-headed blackbirds, raptors such as eagles and ospreys, and waterfowl such as ducks, geese, and mergansers; and mammals such as American beaver, muskrat, and northern river otter. This aquatic habitat is important for the natural production of fish species. Plant cover stabilizes streambanks and riverbanks, reduces water temperatures, and minimizes the deposition of sediment into rivers and streams.

General soil map units 1 through 5, 10, 12, and 13 have areas of this habitat type. Soils that have physical properties such as a claypan or a seasonal high water table and support hydrophytic vegetation typically are hydric and are associated with this habitat type. In this survey area, these include Aquepts, Brenner and Coquille soils, Histosols, Depoe soils, Dystrudepts, Fluvaquents, Hebo and Heceta soils, and Humaquepts.

Agriculture, Pastures, and Mixed Environs

This habitat type includes all of the land under cultivation, including pasture, row crops, nonirrigated and irrigated cereal crops, alfalfa, and orchards (fig. 82). It is within a matrix of other habitat types at low to middle elevations, including the Westside Lowlands Conifer-Hardwood Forest, Herbaceous Wetlands, Westside Riparian Wetlands, and Urban and Mixed Environs habitat types. This habitat type is dominant in nearly level to gently sloping areas, in areas of well developed soils, in broad river valleys such as the Tillamook Valley, and in areas with access to

Figure 82.—Agricultural pastures in a tributary valley.

abundant irrigation water. Examples include the grass silage fields in Tillamook Valley, the livestock pastures throughout the survey area, and the Christmas tree farms on the lower slopes of the Coast Range foothills. Unlike other habitat types, this type typically is characterized by regular landscape patterns (squares, rectangles, and circles) and straight borders because of ownership boundaries and the multiple crops grow in an area. The borders of this habitat type and along adjacent habitat types can be abrupt (Johnson and O'Neil, 2001). This habitat type is structurally diverse because of the variety of cover types, which range from annual grasses and row crops to mature orchards. The structural diversity is increased at a local level by the presence of uncultivated or less intensely managed vegetation, such as fencerows, roadside vegetation, and field borders (fig. 83). A variety of native wildlife species use the agricultural land, especially in areas where there are also small remnants of riparian vegetation or other trees (native or introduced) and shrubs. The climate is characterized by cool, wet winters and cool, moist summers. Fog is common in summer.

This is an anthropogenic habitat type. The dominant characteristic of agricultural habitat is a regularly scheduled pattern of management activities and vegetation disturbance. In most areas, fertilizer and pesticides are applied, vegetation is removed (harvested), and the soil and vegetation is manipulated. As a result of tillage operations, the amount of plant residue on the surface during the nongrowing season can range from none (bare soil) to 100 percent litter cover. Harvesting on cultivated cropland, Christmas tree plantations, and nurseries and mowing or haying on improved pastures substantially change the structure of the vegetation. These practices prevent agricultural areas from reverting to native vegetation. Excessive grazing in unimproved pastures may increase the presence of weedy or invasive plant species.

Representative wildlife species include amphibians such as bullfrog and western toad and reptiles such as common king snake and gopher snake. A variety of bird

Figure 83.—Fencerows and field borders.

species including barn owl; short-eared owl; great blue heron; horned lark; swallows; jays; ravens; crows; western bluebird; western meadowlark; robins; songbirds such as finches, sparrows, and warblers; game birds such as ring-necked pheasant, mourning dove, and California quail; raptors such as northern harrier, red-tailed hawk, and American kestrels; and waterfowl such as ducks and Canada geese also use areas of this habitat type. It also provides habitat for mammals and rodents such as bats, coyotes, deer, rabbits, squirrels, pocket gopher, mice, voles, raccoons, opossums, and skunks. The stream habitat is also important to salmonids.

General soil map units 1 through 5 have areas of agricultural habitat. Typical soils include Alic Hapludands; Aquepts; Brenner, Chitwood, Condorbridge, Coquille, Croquib, Euchre, Ferrelo, Gauldy, Ginger, Hebo, Horseprairie, Knappa, Logsden, Mues, Nehalem, and Nestucca soils; Oxyaquic Fulvudands; Quillamook, Siletz, and Tillamook soils; Typic Fulvudands; and Walluski, Wolfer, and Yachats soils.

Urban and Mixed Environs

This habitat type is anthropogenic and consists of areas that are used dominantly for urban or industrial development. Remnant patches of native vegetation are scattered throughout the landscape. Examples are in the cities of Tillamook, Garibaldi, Bay City, and Pacific City. Urban development occurs within or adjacent to nearly every other habitat type recognized in Oregon, and it commonly replaces habitat that is valuable to wildlife. It creates a unique physical setting in which temperatures are elevated and lighting is increased; wind velocities are altered; and areas are nearly level. The climate is characterized by cool, wet winters and cool, moist summers. Fog is common in summer.

The highest urban densities generally are at the lower elevations along natural or manmade transportation routes, such as rivers, railroad lines, coastlines, or interstate

highways. Because early settlers in the survey area commonly modified the original landscape for agricultural purposes, many urban areas are surrounded by agricultural and grazing land (Johnson and O'Neil, 2001). The original habitat is drastically altered in urban areas and is replaced with buildings, impermeable surfaces, and typically plantings of non-native species. Many structural features of the historical vegetation, such as snags, dead and downed wood, and brush piles, commonly are completely removed. Understory vegetation may be totally absent, or if present, commonly is short and single layered. Many urban areas in western Oregon, including those in the survey area, have a considerable amount of natural vegetation and support a diverse fauna. Urban areas are used for shelter by wintering birds during periods of inclement weather.

Wildlife species that use this habitat include amphibians such as bullfrog and western toad and reptiles such gopher snake and some species of garter snake. A variety of bird species including barn owl; short-eared owl; great blue heron; horned lark; swallows; jays; ravens; crows; western bluebird; western meadowlark; robins; a variety of songbirds such as finches, sparrows, and warblers; raptors such as American kestrel; and waterfowl such as ducks and Canada geese also use this habitat type. It also provides habitat for a variety of small mammals and rodents such as bats, rabbits, squirrels, pocket gopher, mice, voles, raccoons, opossums, and skunks.

General soil map units 1 through 5 have areas of this habitat type. Typical soils include Alic Hapludands; Aquepts; Brenner, Chitwood, Condorbridge, Coquille, Croquib, Euchre, Ferrelo, Gauldy, Ginger, Hebo, Horseprairie, Knappa, Logsden, Mues, Nehalem, and Nestucca soils; Oxyaquic Fulvudands; Quillamook, Siletz, and Tillamook soils; Typic Fulvudands; and Walluski, Wolfer, and Yachats soils.

Westside Riparian-Wetlands

This habitat type is typified by wetland hydrology and soils, periodic riverine flooding, and perennial freshwater flows. Most areas are nearly level to gently sloping, but some areas in the Coast Range are strongly sloping to steep. Gleyed soils and most other soils that are affected by water, such as surface ponding, overbank flows, or a seasonal high water table, long enough to develop redoximorphic concentrations and/or depletions are typical in areas of this habitat type. The soils may be permanently flooded, seasonally flooded, saturated, and temporarily flooded.

This habitat type generally occurs as patches or linear areas within a matrix of forests or areas of forest regrowth, typically areas of the Westside Lowlands Conifer-Hardwood Forest habitat type. Examples include areas along the North Fork of the Kilchis River, north of Sawtooth Ridge; Three Rivers, south of Hebo; the South Fork of the Wilson River, east of Lees Camp; Moon Creek, north of Blaine; Foley Creek, south of Mohler; and Cook Creek, southeast of Nehalem Falls. The primary use of the forested areas is timber harvesting. The climate is characterized by cool, wet winters and cool to warm, moist summers. Fog is common in summer at the lower elevations along the alluvial tributaries.

Typically, this habitat type supports tall, deciduous broadleaf forests, woodland, or shrubland. Areas support conifers such as Douglas-fir, western hemlock, and western red cedar or hardwoods such as bigleaf maple and red alder, or a mixture of both (fig. 84). Understory plants include shrubs, forbs, and grasses. Water may be on the surface during part of the year. Large woody debris is abundant in the forests and in the adjacent stream channels. Areas along small stream channels (first, second, and third order streams) and small backwater channels of larger streams or creeks are also included in this habitat type.

Flooding is the primary natural disturbance. The frequency and intensity of flooding varies, depending on the hydrologic and geomorphic characteristics of the area.

Figure 84.—Area of Westside Riparian-Wetlands habitat type.

Floods can create new areas for the successional processes of plant and animal lifeforms to take place, erode existing biotic communities along streambanks, deposit suspended sediment and nutrients on existing biotic communities, and selectively kill species not adapted to a particular duration or intensity of flooding. Since most plant communities are adapted to a particular flooding regime, such as frequent or occasional flooding, or are only present during a given period in the successional order of the plant communities, the composition of the plant communities in this habitat type are diverse. Debris flows and torrents, which typically occur infrequently, affect the mountainous areas. Because of the position on the landscape and available moisture in areas of this habitat type, fire probably is not a major factor. Fires within a watershed generally impact this habitat type through flooding, sedimentation, and deposition of large woody debris. Beavers create dams that can alter the hydrology of the stream system. Grazing by deer, elk, or livestock can also have a negative impact.

Riparian habitat is extremely dynamic. The composition of the vegetation depends on the types of disturbance that have occurred. Intense logging without adequate or proper management in areas of conifer, mixed riparian, and wetland forests can result in the establishment and long-term dominance of red alder. Salmonberry will become dominant in the understory. Logging activities tend to reduce the amount of large woody material in the streams. Timber harvesting can also alter hydrology, generally by increasing peak streamflows after harvesting. Roads and other water diversion or retention structures also can change the hydrology. Most significant are the major flood-controlling dams that have altered the frequency and intensity of flooding on the bottomland. An increase in the amount of nutrients and pollutants is also common as a result of anthropogenic activities (Johnson and O’Neil, 2001).

This habitat type provides important breeding areas and travel corridors for amphibians, reptiles, waterfowl, and raptors. The riparian vegetation along streams and rivers should be protected from excessive disturbance where possible to maintain or improve water quality. Plant cover stabilizes streambanks and riverbanks, reduces water temperatures, and minimizes the deposition of sediment into rivers and streams. Stream habitat is important to salmonids.

This habitat type is in relatively small areas. Its extent has declined greatly as areas have been converted to urban and residential development and agricultural uses. The areas that remain generally are in poor condition as a result of the various human activities.

Typical wildlife species associated with this habitat type include fish species such as brown trout and brook trout, amphibians such as salamanders and frogs, and reptiles such as alligator lizard and garter snake. A variety of bird species including great blue heron; green heron; wood duck; merganser; hawks; great horned owl; western screech-owl; northern pygmy owl; red-breasted sapsucker; northern flicker; hairy woodpecker; American dipper; belted kingfisher; rufous hummingbird; swallows; flycatchers; western bluebird; cedar waxwing; robins; songbirds such as finches, sparrows, thrushes, and warblers; and game birds such as wild turkey, California quail, and mountain quail use this habitat type. It also provides habitat for a variety of small mammals and rodents such as opossums, shrews, moles, bats, eastern cottontail, snowshoe hare, Townsend's chipmunk, pocket gopher, wood rat, voles, gray fox, mink, weasels, and skunks.

General soil map units 6 through 16 have areas of this habitat type. Soils generally associated with this habitat type include Alic Hapludands, Aquepts, Dystrudepts, Humaquepts, Oxyaquic Fulvudands, Oxyaquic Hapludands, and Typic Fulvudands. The plant communities, parent material, climatic zones, and the bodies and sources of water vary greatly. Because of the scale of mapping, recognition of these riparian areas was limited to small, highly variable, linear areas along watercourses and drainageways.

Westside Lowlands Conifer-Hardwood Forest

This habitat type includes most of the forested lowlands of western Oregon and the lower elevations of the west slope of the Cascade Range (fig. 85). The lower elevation interior parts of the survey area east of the coastal margin, including the lowlands, dunes, flood plains, stream terraces, and marine terraces but excluding the middle to high elevation mountain peaks and ridges support this habitat type. It is the most extensive habitat type in the survey area; it forms the matrix within which other habitat types occur as inclusions, particularly the Westside Riparian-Wetlands habitat type and to a much lesser extent the Herbaceous Wetlands and Open Water—Lakes, Rivers, and Streams habitat types. This habitat type also occurs adjacent to or in a mosaic with the Agriculture, Pastures, and Mixed Environs habitat type. At the higher elevations in the survey area, it is bordered by the Montane Mixed Conifer Forest habitat type. The climate is characterized by cool, wet winters and cool to warm, moist summers. Fog is common in summer at the lower elevations and along the alluvial tributaries. The primary land use is forestry.

This habitat type supports dominantly evergreen conifers such as Douglas-fir and western hemlock or deciduous broadleaf trees such as bigleaf maple and red alder, or both. Late seral stages typically have an abundance of large conifer trees, a multi-layered canopy, large standing snags, and many good-sized logs on the ground. Fallen dead trees provide habitat for wildlife such as insects, which are a source of food for many vertebrates, as well as cover for amphibians, reptiles, and small mammals. Douglas-fir and western hemlock form a closed canopy under which a variety of other trees and shrubs and other understory vegetation grow. Early seral

Figure 85.—Area of Westside Lowlands Conifer-Hardwoods Forest habitat type.

stages generally have smaller trees and a single-storied canopy and form a mosaic across the landscape that includes various deciduous hardwood species such as bigleaf maple and red alder. Conifer or broadleaf trees, or both, can be dominant. The regenerating forest has not yet grown sufficiently to provide significant canopy closure; however, a variety of shrubs provide good ground cover and browse for wildlife such as deer and elk (fig. 86). In areas where stumps and downed logs are abundant, this stage can provide habitat for many species adapted to open areas with good cover. Woody debris is abundant in the early stages after a major disturbance, but it is much less abundant following harvesting practices such as clearcutting. The composition of the forest understory is quite variable. Evergreen shrubs tend to be dominant in the nutrient-poor or drier areas, and deciduous shrubs, ferns, and forbs tend to be dominant in the relatively nutrient-rich or moist areas. Almost all structural stages are represented in the successional sequence of the plant communities in areas of this habitat type. Mosses are a common ground cover. Lichens are abundant in the canopy of the ancient forest stands. Throughout areas of this habitat type, western hemlock tends to increase in importance as the stand develops.

Fire is the major natural disturbance in areas of this habitat type. The natural fire-return interval generally ranges from about 100 years or less in the drier areas to several hundred years in the wettest areas. Major natural fires are associated with occasional extreme weather conditions. Most of the fires are high intensity ones, with few trees surviving. Fires of low or moderate intensity, those that leave a partially or completely live canopy, also are common, especially in the drier interior areas.

Dead and downed wood, standing dead trees, and snags are important habitat elements in the forests (fig. 87). Downed wood includes logs, root wads, stumps, wood piles, logging slash, roots, branches, loose bark, and bark piles. Different animal species are associated with the different types of downed wood. Coarse woody debris, particularly large downed logs, are used most frequently by amphibians and mammals.

Figure 86.—Elk and deer browsing on shrubs and grass in a reforested clearcut in an area of Murtip-Caterl-Laderly complex, 5 to 30 percent slopes, in the Bald Mountain area.

Figure 87.—Fire snags from the Tillamook Burn era in an area of Harslow-Klistan-Rock outcrop complex, 60 to 90 percent slopes. Dead and downed wood and standing dead trees and snags are important habitat elements in the forests.

Downed wood provides forage, cover, and sites for reproduction of vertebrates. Birds use downed wood for perching, forage, cover, and nesting. Snags are used extensively by birds and mammals. Cavities, cracks, crevices, and loose bark on or in snags are used by a number of species as cover and as sites for resting, roosting, and nesting.

Occasional windstorms occur, and the severity of the wind varies greatly. Minor wind gusts that cause little damage occur quite frequently, and major windstorms that cause extensive damage occur on an average of once every few decades. Insects and diseases are significant causes of mortality of trees. Landslides and other slope stability problems occur in some areas.

Clearcut logging practices and plantation forestry have resulted in much less diverse tree canopies. Douglas-fir is the main species that has been planted, resulting in a reduction in the coarse woody material as compared to the natural plant community, a shortened stand initiation period, and a plant community succession that is well below maturity.

Large areas of this habitat type remain, and they provide some of the most diverse and productive wildlife habitat in the survey area. The extent of this habitat type is being reduced gradually, and the condition of the remaining areas has been impacted by improper harvest practices or poor management. Most of this habitat type is currently supporting Douglas-fir plantations. Only a small fraction of the original old-growth forests remain, most of which is in the National forests. An increase in the use of alternative silvicultural practices may improve the structural and species diversity in some areas.

Typical wildlife species associated with this habitat type include amphibians such as western toad and salamanders and reptiles such as northern alligator lizard, rubber boa, and several species of garter snakes. A variety of bird species including great blue heron; green heron; wood duck; osprey; hawks; great horned owl; western screech-owl; spotted owl; northern saw-whet owl; northern pygmy owl; red-breasted sapsucker; pileated woodpecker; hairy woodpecker; gray and Stellar's jays; rufous hummingbird; swallows; flycatchers; western bluebird; red-breasted nuthatch; marbled murrelet; cedar waxwing; robins; a variety of songbirds such as finches, sparrows, thrushes, and warblers; and game birds such as ruffed grouse (fig. 88), blue grouse, and mountain quail use this habitat type. It also provides habitat for a variety of mammals and rodents such as shrews; moles; bats; porcupines; snowshoe hare; mountain beaver; Townsend's chipmunk; squirrels such as western gray squirrel, Douglas' squirrel, and northern flying squirrel; deer mice; bushy-tailed wood rat; voles; marten; weasels; skunks; red fox; gray fox; black bear; black-tailed deer; Roosevelt elk; mountain lion; and bobcat.

Areas of this habitat type are in general soil map units 6 through 13. Typical soils include the Apt, Ascar, Astoria, Bohannon, Braun, Ecola, Fendall, Flowerpot, Ginsberg, Harslow, Hembre, Hemcross, Honeygrove, Kilchis, Klistan, Klootchie, Lebam, McDuff, Melby, Munsoncreek, Necanicum, Neotsu, Neskowin, Peavine, Preacher, Reedsport, Rinearson, Salander, Scaponia, Skipanon, Svensen, Templeton, Tolke, Tolovana, and Winema series.

Montane Mixed Conifer Forest

This habitat type is at the higher elevations in the Coast Range. It is typified by a moderate snowpack that persists for as long as 3 months in most years (4 months in years with above average snowfall). The climate is characterized by cold, wet winters and cool to warm, moist summers.

The primary land use is forestry and recreation. Most areas of this habitat type are on public lands that are managed for timber production, and much of it has been harvested with a dispersed-patch pattern technique. Rogers Peak, Mount Hebo, Sawtooth Ridge, Buck Mountain, Cedar Butte, Giveout Mountain, Foley Peak, Kings

Figure 88.—Ruffed grouse on a forest road.

Mountain, Neahkahnie Mountain, Edwards Butte, Fox Creek Ridge, Gold Peak, Hembre Ridge, Rye Mountain, Dovre Peak, and Woods Point support this habitat type.

This forest habitat type is above the Westside Lowlands Conifer-Hardwood Forest habitat type and supports dominantly conifers. It has a single- to multi-storied canopy with large to small trees. The occurrence of large snags and logs ranges from abundant to none. Shrubs, ferns, forbs, and grasses commonly are dominant in the understory; however, in some places the understory is entirely devoid of plants. The most dominant understory species is deciduous broadleaf shrubs. Early successional structure after logging or fire varies depending on the understory species. Mosses are a dominant ground cover, and lichens generally are abundant in the tree canopy.

This habitat type is recognized by the prominence or presence of either noble fir or Pacific silver fir (see fig. 59). Several other tree species, such as Douglas-fir or western hemlock, may be codominant. Tree regeneration occurs with noble fir or Pacific silver fir. Deciduous shrubs include oval-leaf blueberry, thin-leaf huckleberry, grouse whortleberry, fools huckleberry, and copperbush. Important evergreen shrubs

include Pacific rhododendron and common beargrass. The most abundant forbs include Oregon oxalis, queencup bead lily, prince's pine, and dwarf bramble.

Fire is the major natural disturbance that affects areas of this habitat type. The fires commonly are of high intensity, and the average fire-return interval varies greatly. Dead and downed wood, standing dead trees, and snags are important habitat elements in the forests. Downed wood includes logs, root wads, stumps, wood piles, logging slash, roots, branches, loose bark, and bark piles. Different animal species are associated with different types of downed wood. Coarse woody debris, particularly large downed logs, are used by amphibians and mammals. The downed wood provides forage, cover, and sites for reproduction of invertebrates. Birds use downed wood for perching, forage, cover, and nesting. Snags are used extensively by birds and mammals. Cavities, cracks, crevices, and loose bark on or in snags are used by a number of species as cover and as resting, roosting, and nesting sites.

Windstorms are common as a small-scale disturbance, and they occasionally result in stand replacement. Insects and diseases also are important small-scale disturbances. Landslides and other slope stability problems are natural disturbances that occur in some areas.

After fire or other disturbances, stand initiation can take a long time, particularly at the higher elevations, commonly resulting in an understory that is dominantly shrubs and forbs with or without scattered trees. Early seral tree species can be either of the potential dominant species for the habitat type, depending on the environment, type of disturbance, and seed source. Fires tend to favor early seral dominance of Douglas-fir or noble fir if a viable seed source is present. As the stand continues to develop, the relatively shade-intolerant trees typically decrease in dominance and the shade-tolerant species such as Pacific silver fir gradually increase. Complex multi-layered canopies with large trees typically take at least three to four centuries to develop. They may never become established in some areas. As the elevation increases, tree growth rates are slowed by the climatic conditions.

Forest management practices, such as clearcutting and establishing monoculture tree plantations, have resulted in less diverse tree canopies because the major emphasis is on Douglas-fir. These practices also reduce the amount of large woody debris in a forest as compared to a natural forest and stop the succession before the late seral stage. Regeneration (post-harvest) of trees in areas of this habitat type has been a continual problem for forest managers for many decades. Previous management practices included replanting Douglas-fir and burning slash debris, which negatively impacted productivity and regeneration. Current management practices have shifted toward planting noble fir or other native species and natural regeneration of tree stands. Noble fir plantations are now common in managed areas, even in areas outside the natural range of this species.

This habitat type is of minor extent in the survey area. Some areas are relatively undisturbed by human activities and support significant old-growth stands. Other areas have been extensively affected by logging, especially dispersed-patch clearcuts. The extent of this habitat type is stable, but it probably is still declining in condition as a result of continued harvesting.

Typical wildlife species associated with this habitat type include amphibians such as western toad and salamanders and reptiles such as northern alligator lizard, rubber boa, and garter snakes. A variety of bird species including hawks; great horned owl; spotted owl; northern saw-whet owl; northern pygmy owl; red-breasted sapsucker; pileated woodpecker; hairy woodpecker; gray jay; Stellar's jay; rufous hummingbird; swallows; flycatchers; red-breasted nuthatch; marbled murrelet; robins; songbirds such as finches, sparrows, thrushes, and warblers; and game birds such as ruffed grouse, blue grouse, and mountain quail use this habitat type. It also provides habitat for a variety of mammals and rodents such as shrews; moles; bats; porcupines; snowshoe

hare; mountain beaver; Townsend's chipmunk; several species of squirrels such as western gray squirrel, Douglas' squirrel, and northern flying squirrel; deer mice; bushy-tailed wood rat; voles; marten; weasels; skunks; red fox; gray fox; black bear; black-tailed deer; Roosevelt elk; mountain lion; and bobcat.

General soil map units 14, 15, and 16 have areas of the Montane Mixed Conifer Forest habitat type. Typical soils include the Fawceter, Killam, Mosscreek, Caterl, Laderly, Murtip, McMille, Mutt, Newanna, Sevencedars, Woodspoint, and Mulkey series.

Engineering

This section provides information for planning land uses related to slope stability, urban development, and water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, sanitary facilities, construction materials, and water management. The ratings are based on observed performance of the soils and on the data in the tables described under the heading "Soil Properties."

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil between the surface and a depth of 5 to 7 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about particle-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 to 7 feet of the surface, soil wetness, depth to a water table, ponding, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kinds of adsorbed cations. Estimates were made for erodibility, saturated hydraulic conductivity (Ksat), corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, reclamation material, roadfill, and topsoil; plan structures for water management; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

Slope Stability

The Coast Range generally is characterized by steep slopes, relief of as much as 2,000 feet, and moderate dissection by rivers and streams. These mountains are fairly young, and the area has undergone recent tectonic activity. The annual precipitation typically averages more than 95 inches per year. Steep slopes, when combined with incompetent geologic units and unstable soil units, produce numerous and varied slope failures. A landslide is the mass movement of soil, rock, and debris material downslope (National Research Council, 1996). It is a normal geologic process. Generally, landslides are determined by local topographic, hydrologic, and geologic conditions. Slope instability is an inherent natural feature of mountainous terrain, particularly in areas where the environmental factors that determine the natural stability of mountain slopes result in unfavorable or negative characteristics. The types of mass movement largely are differentiated by material properties, shear plane geometry, and triggering mechanisms.

The principal mass erosion processes are grouped into two general categories. The first category includes slow, downslope movement, or soil creep (fig. 89), which involves subtle deformation of the soil mantle in response to gravitational stress; and discrete, slow-moving, deep-seated failures, or slump-earthflows (fig. 90). The second category includes rapid, shallow soil and organic debris movement from hillslopes, or debris avalanche-debris flows (fig. 91); and rapid debris movement along downstream channels, or debris torrents (fig. 92). Areas that are underlain by clay-rich bedrock and have deep, cohesive soils are characterized by the dominance of the slow mass movement processes. Debris avalanche-debris flows are dominant in areas of mountainous terrain typified by steep slopes, non-cohesive soils, and relatively competent bedrock, such as in large areas of the Coast Range in Oregon. Debris torrents are characterized by the movement of water-charged soil, rock, and organic material down steep, first- and second-order stream channels on mountain slopes (Swanston and Swanson, 1976).

In localized areas where shear stresses are high enough, discrete failures occur and slump-earthflow features are formed. Simple slumping takes place as a rotational

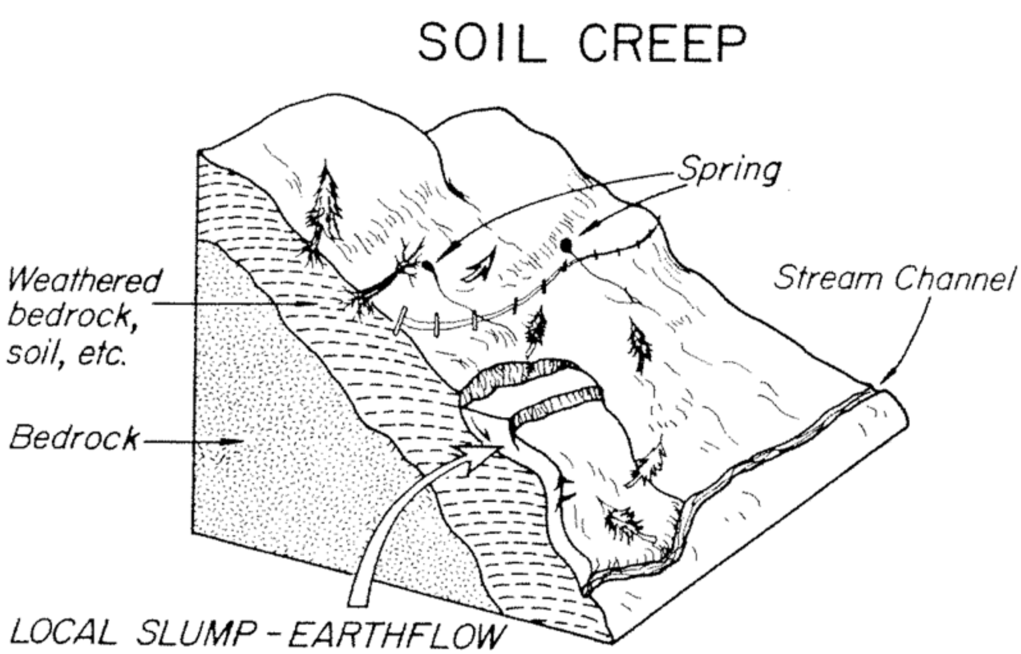

Figure 89.—Block diagram of soil creep.

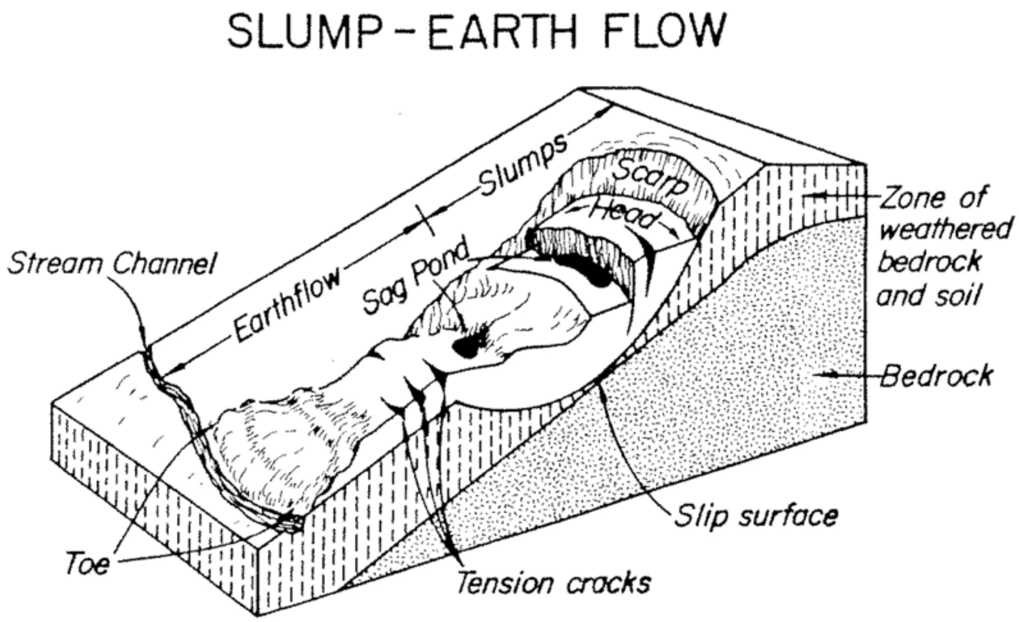

Figure 90.—Block diagram of slump-earthflow.

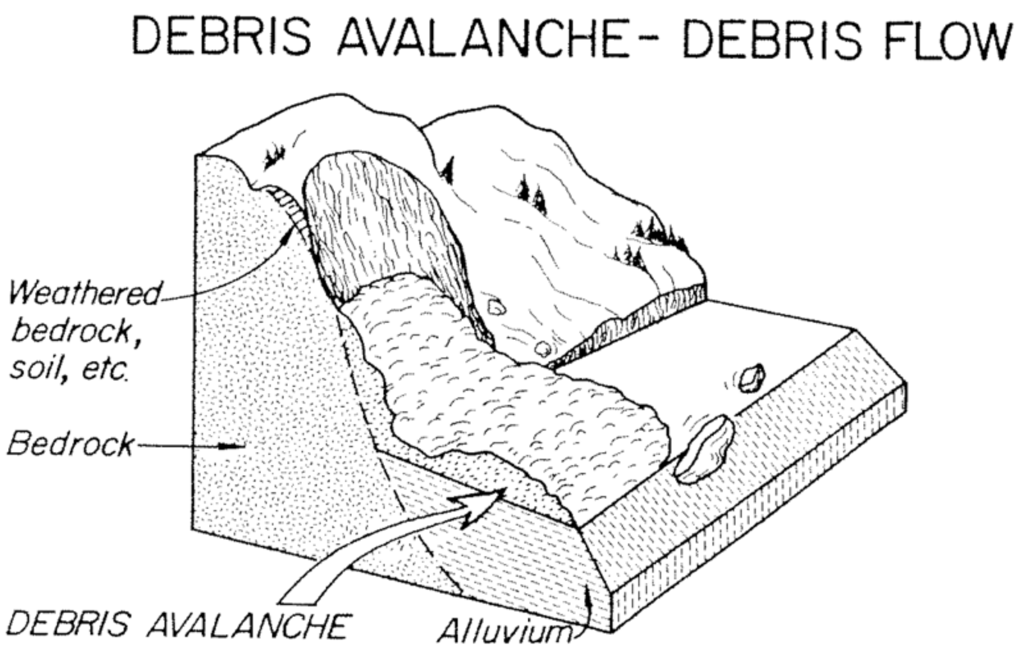

Figure 91.—Block diagram of debris avalanche-debris flow.

movement of a block of soil over a broadly concave slip surface and is characterized by very little breakup of the moving material. No additional movement occurs after the initial failure. A slow earthflow is defined as an area where material slips downslope and is broken up and transported either by a flowage mechanism or by gliding displacement of a series of blocks (fig. 93). The dominant failure geometry is a unit block of soil sliding along a curved surface. The term slump-earthflow is used because many of the areas of deep-seated mass movement in the Pacific Northwest have

Figure 92.—Debris torrent on the Little North Fork of the Kilchis River.

slump characteristics in the headwall area and earthflow features downslope (Varnes, 1958).

The initial movement in debris avalanche-debris flows occurs as a block of soil fails and slides along a planar surface oriented downslope. Once failure occurs, the internal stresses in the block cause it to break up and move downslope either as a loosely coherent mixture of soil, rock, and organic debris (fig. 94) or, if enough water is present, as a flow of this mixture. The dominant failure geometry is a unit block of soil sliding along an inclined surface.

Although similar factors can be used to evaluate the risk of both types of movement, the relative importance of these factors may be different between the two types. Each kind of soil mass movement has some site or management activity parameters that are specific for that movement. To evaluate the risk of a soil mass movement, each type must be evaluated separately using the factors that are significant in characterizing the particular kind of failure (Swanston, 1981).

Debris torrents are distinguished from debris avalanche-debris flows since they occur over different parts of the landscape. Debris torrents are initiated during periods of extreme discharge by slides from adjacent hillslopes, which enter a channel and move directly downstream, or by the breakup and mobilization of debris accumulations in the channel. The initial slurry of water and associated debris commonly incorporates large quantities of additional organic and inorganic material from the streambed and streambanks. As the torrent loses momentum, a mass of large organic debris in a matrix of sediment and fine organic material is deposited (fig. 95).

Figure 93.—Example of a slow earthflow.

The main factors controlling the occurrence of debris torrents are the quantity and stability of debris in channels, steepness of the channel gradient, stability of adjacent hillslopes, and peak discharge characteristics of the channel. The concentration and stability of debris in channels reflect the history of stream flushing and the health and stage of development of the surrounding stands of timber (Froelich, 1973). The history of flows during storms influences the stability of both the soils on hillslopes and the debris in stream channels (Swanston and Swanson, 1976).

The six major environmental factors that should be considered when evaluating the stability of natural slopes in terms of soil mass movement are landform features, soil characteristics, bedrock lithology and structure, vegetative cover, hydrologic characteristics, and climatic conditions. Each of these encompass a group of factors that control the stability of a slope and determine the type of processes and movements most likely to occur. Key factors that help to identify potentially unstable slopes in mountainous terrain include slope gradient or angle and the intensity and duration of precipitation. Soil properties, including depth, texture, permeability, angle of internal friction, and cohesion, determine the types of processes that will dominantly occur. To some degree, these properties also help to determine the stable slope gradient within a particular soil type. Bedrock structure, particularly orientation and inclination of beds and degree of fracturing or jointing, is an important factor in determining local stability conditions (Swanston, 1981).

Landform features

These features are a reflection of the origin and geomorphic history of a particular watershed, and they provide information on the types of soils and their characteristics,

Figure 94.—Debris avalanche-debris flow in the Kilchis River watershed.

Figure 95.—Accumulation of organic and inorganic debris at the base of a debris torrent in the watershed of the Little North Fork of the Kilchis River.

failure mechanics, drainage, and climate. The principle factors are terrain origin, slope configuration, and slope gradient.

Terrain origin.—Analysis of this factor provides a qualitative indication of potentially unstable landform types. Initially, this information can be obtained from aerial photographs or topographic maps.

Slope configuration.—Investigation of slope shape provides an indication of the location and extent of the most unstable areas on a slope. On both concave and convex slopes, generally the steepest areas are the most unstable. Convex areas may have over-steepened gradients in the lower parts of the slope, and concave areas may have over-steepened gradients in the upper parts of the slope.

Slope gradient.—This is a key factor in soil stability on any steep mountain slope. It determines the effectiveness of gravity acting to move a soil mass downslope. Slope gradient also affects subsurface waterflow in terms of the rate of drainage and subsequent susceptibility to the buildup of a temporary water table during high-intensity storms.

The general relationship between slope angle and stability in the survey area is as follows:

- Slopes of 0 to 40 percent—stable when dry or saturated, except in very poorly drained soils where earthflows can develop
- Slopes of 40 to 55 percent—stable when dry; marginally stable when saturated
- Slopes of 55 to 75 percent—stable to marginally stable when dry; unstable when saturated
- Slopes of more than 75 percent—subject to ravel when dry; very unstable when saturated

These slope limits vary somewhat depending on the type and structure of the rock, characteristics and aspect of the soil, and influence of groundwater.

Soil characteristics

These elements are a reflection of the types of parent material, climate, and geomorphic history. They suggest useful information about drainage, strength, failure mechanisms, and degree of weathering. Different soil types have varying stability characteristics. Generally, coarse-textured, less cohesive soils (sand and gravel) on steep, dry slopes are more likely to ravel or form dry flows. Finer textured soils (higher content of clay) and poorly drained soils (silt and clay) are more cohesive and tend to slide at lower slope gradients than do coarse textured, well drained soils. The key factors are discussed in the following paragraphs.

Type of parent material.—This provides an indication of the probable shape of soil particles, bulk density, degree of cohesion or clay mineral content, soil depth, permeability, and presence or absence of impermeable layers. These characteristics, in turn, suggest the types of soil mass movement processes that are likely to occur in an area. The type of parent material can be obtained from existing geologic and soil survey maps and by field observation.

Presence or absence of compacted, cemented, or impermeable layers.—This indicates the depth of the potentially unstable soil and likely principal failure planes on the slope. This information is available from observation of soil pits or borings and inspection of slope failure scars in the field.

Evidence of concentrated subsurface drainage (including seasonal saturation from a high water table).—This indicates local zones of periodic high soil-moisture content, including saturation and potentially active pore-water pressure during periods of high rainfall. This information helps to identify potential areas of slope failure. It is obtained through aerial photointerpretation and ground observation. Diagnostic features include broad linear depressions perpendicular to the contour of the slope (old landslides) and

areas of concentrated subsurface drainage and wet areas (springs, seeps, and areas of concentrated ground water movement).

Diagnostic soil properties.—These factors are key in determining soil strength, the dominant types of soil mass movement processes, mechanics of the movements, and probable maximum and minimum stable slope gradients. They are identifiable through field testing, sampling, and laboratory analysis. Data may also be obtained from soil surveys and engineering studies for road construction. They include soil depth, texture, clay mineralogy, angle of internal friction, and cohesion. Soil depth is the principal component used to obtain the weight of the soil mass, which is an important element in determining soil strength and gravitational stress on an unstable soil. Texture, along with clay mineral content, are significant factors in determining cohesion, angle of internal friction, and hydraulic conductivity of an unstable soil. Clay mineralogy is useful as a gauge of sensitivity to deformation. Some types of clay are more susceptible to deformation than are others, making this element a key consideration in areas where active soil creep and slump-earthflow failures occur. Clay that has a high potential for shrinking and swelling (smectite) is particularly unstable. The angle of internal friction is a significant factor used to determine the shear strength or resistance of a soil to gravitational stress. Cohesion is the capacity of soil particles to hold together. It generally is a direct result of a high content of clay (more than 20 percent). It is a major contributor to the shear strength of a fine grained soil.

Types of soil mass movement.—This element provides information on the size and location of potentially unstable areas, type of recent landslide activity, and soil mass movement processes occurring on a slope.

Bedrock lithology and structure

These factors reflect the soil depth, drainage, geomorphic formation, type and degree of weathering, and dominant soil mass movement processes in a given area. Different types of rock have varying characteristics. Soil characteristics are partially defined by the local bedrock. Bedrock features such as bedding planes, fractures and faults, and fold structures can affect slope stability by weakening the rock, increasing the depth of weathering, and influencing the movement of ground water. The key elements include type of rock, degree of weathering, orientation of the bedding plane, and degree of jointing and faulting. The type of rock provides a regional guide to potential areas of soil mass movement and the dominant processes involved. For example, areas in the Coast Range in Oregon underlain by breccia and silty sandstone are particularly susceptible to slump-earthflows (fig. 96). Where hard, resistant volcanic flows are present, shallow planar failures are dominant (fig. 97). The stability of a rock formation depends mainly on mineralogy, climate, and degree of weathering. The degree of weathering is an indication of the depth of a soil and the potential types of soil mass movement. It also is an indication of the degree of clay mineral formation in some areas. Orientation of the bedding planes is a major contributor to unstable slopes, especially in areas where the planes parallel or dip in the same direction as the slope. In these areas, the bedding planes form zones of weakness along which slope failures can occur as a result of the high pore-water pressure and a decrease in the frictional resistance. Joints are a major contributor to slope instability in areas where slopes are underlain by igneous material. Where they are parallel to or dip in the same direction as the slope, local zones of weakness result in failures. Jointing also provides pathways for deep penetration of groundwater, which increases the pore-water pressure along downslope-dipping joint planes.

Vegetative cover

Vegetation influences the amount of water that reaches the soil and is stored in it and the relative strength of the soil material. The key factors are the type and distribution of vegetation, the distribution of roots, and the degree of anchoring of roots in the subsoil. The type and distribution of vegetation provides useful information on the effectiveness of the vegetation to intercept water, the water storage potential,

Figure 96.—Numerous slump-earthflows in an area of Ginsberg-Klistan complex, 30 to 60 percent slopes, which is underlain by tuff and breccia.

Figure 97.—Shallow planar debris avalanche-debris flows in an area of Necanicum-Ascar-Klootchie complex, 60 to 90 percent slopes.

and the history of soil mass movement in an area. The root distribution and degree of anchoring in the subsoil indicate the effectiveness of tree roots in stabilizing shallow, steep soils.

Hydrologic characteristics

Hydrologic properties reflect the ease with which water moves through the soil and the potential for saturation and development of pore-water pressure. Generally, the potential for slope failure is significantly higher if the soil material is saturated. The key factors are hydraulic conductivity and pore-water pressure. Hydraulic conductivity provides a measure of water movement in and through soil material. Low hydraulic conductivity results in rapid, storm-generated saturation and a high probability of active pore-water pressure, producing highly unstable soils on steep slopes. The pore-water pressure affects the stability of soils on steep slopes primarily by reducing the weight component of its shear strength.

Climatic conditions

Climate controls the quantity and timing of water received by soils. The key factors are the occurrence and distribution of precipitation, the accumulation of snow, and the effects of seasonal melting of snow and periods of rain on snow. Most regional soil mass movement is triggered by active pore-water pressure produced by rainfall of high intensity. The snowpack, seasonal melting, and periods of rain on snow affect the amount of water reaching the soils in winter and the amount released to the soils during the warmer periods in spring. If the amount of water is excessive, soil may be unable to conduct it away from the site immediately. This results in the development of a local temporary water table that produces active pore-water pressure, which increases the likelihood of soil mass movement.

In the northern part of the Coast Range in Oregon, debris avalanche-debris flows and debris torrents are dominant in the gently dipping unstable areas underlain by sandstone and siltstone of the Tyee and Yamhill Formations (Wells and others, 1994). Debris avalanche-debris flows generally are surficial movements that occur on steep slopes. These slides occur as shallow sliding and/or raveling of soil and rock material at the contact of the soil to bedrock. Low content of clay and high content of rock fragments increase the susceptibility of soils to these types of mass movement. The topography is characterized by structurally-controlled, east- and west-trending, narrow ridges and deeply incised valleys with very steep hillslopes cutting across gently dipping bedding planes. On the steep, structurally-controlled slopes, the soils generally are thin (typically less than 4 feet deep) and have a high content of rock fragments. These soils formed in fairly homogenous colluvium derived from volcanic rock. The transition from soil to underlying bedrock is abrupt, and the bedrock commonly is only slightly weathered. The bedrock surface typically serves as the slippage plane for these types of shallow failures.

In areas underlain by siltstone of the Yamhill Formation, especially where extensive shearing has occurred, soil creep and slump-earthflows are dominant on the unstable terrain as a result of widespread alteration of the siltstone to smectite clay (Wells and others, 1994; Snavely and others, 1996; Schlicker and others, 1974).

Intact basalt flows typically are quite competent; however, the presence of weak sedimentary interbeds can compromise the unit as a whole, making it susceptible to landslides. In addition, the basalt flows commonly are considerably permeable to groundwater. The groundwater perches on the sediment-basalt contact, leading to saturated conditions and subsequent weakening of the rock unit (Wang and others, 2001).

Dikes and sills of basalt, diabase, and gabbro, all relatively strong rock, commonly are implaced into mudstone and sandstone units of Eocene sedimentary rock formations in the Oregon Coast Range. Slides commonly occur along the boundaries between these two rock types. The higher peaks in the survey area, such as Rogers

Peak, Mount Hebo, Kings Mountain, and Woods Point, are cored by intrusive rock. These peaks typically are flanked by large, deep-seated landslide deposits, most likely reflecting a tendency for sliding along the boundaries of the intrusive rock (Beaulieu, 1973).

Soil creep and slump-earthflows are most common on the clayey soils that formed in the mudstone and siltstone members of the Alsea, Astoria, and Nestucca Formations and on the soils that formed in the tuff and breccia of the Siletz River Volcanics. These soils have a high percentage of silt and clay, and they can form a hummocky slump complex on moderate to steep slopes, especially in areas that are saturated by springs or seeps and runoff. In areas where mudstone/siltstone and sandstone are interbedded, the ridgetops, shoulder slopes, knobs, and other convex areas tend to be in the areas of the harder sandstone and the back slopes, footslopes, toeslopes, and other concave areas tend to be in the areas of the more weathered mudstone/siltstone.

Areas near outcroppings of basalt or coarse-grained intrusive rock and the cemented units of the Tyee and Yamhill Formations are subject to rock slides.

Road building, forest harvesting, and land leveling for construction of buildings can modify the existing mantle material and slope conditions, strongly influencing the relative stability of a site and possibly accelerating the rate of mass movement (fig. 98). With careful attention to the factors affecting slope stability, however, negative impacts from these activities can be minimized. For further discussion of slope stability and forest management activities, see the section “Forest Productivity and Management.”

Figure 98.—Road failure in an area of Ginsberg medial loam, 5 to 30 percent slopes, which is underlain by tuff and breccia.

The activity of existing landslides is extremely variable, in some areas the movement is ongoing and active and in other areas the material is stable. Site-specific investigations are needed to determine the nature of an existing area of previous mass movement. Known landslides have failure planes that are assumed to have reduced shear strength; therefore, existing landslides are considered to be at high risk for additional movement in all geologic risk assessment studies (Wang and others, 2001).

Building Site Development

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance (fig. 99). Tables 14 and 15 show the degree and kind of soil limitations that affect dwellings with and without basements, small commercial buildings, local roads and streets, shallow excavations, and lawns and landscaping.

The ratings in the tables are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate

Figure 99.—Homes in an area of Waldport fine sand, 0 to 5 percent slopes, adjacent to Lake Lytle, north of Rockaway Beach.

gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Dwellings are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (fig. 100). Compressibility is inferred from the Unified classification. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Small commercial buildings are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification). The properties that affect the ease and amount

Figure 100.—A single family home in an area of Waldport fine sand, thin surface, 3 to 12 percent slopes.

of excavation include flooding, depth to a water table, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, depth to a water table, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a water table, and ponding.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. Depth to the seasonal high water table, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to the water table, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer.

Sanitary Facilities

Tables 16 and 17 show the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, sanitary landfills, and daily cover for landfill. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 72 inches or between a depth of 24 inches and a

restrictive layer is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Saturated hydraulic conductivity (Ksat), depth to a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

Sewage lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Considered in the ratings are slope, saturated hydraulic conductivity (Ksat), depth to a water table, ponding, depth to bedrock or a cemented pan, flooding, large stones, and content of organic matter.

Saturated hydraulic conductivity (Ksat) is a critical property affecting the suitability for sewage lagoons. Most porous soils eventually become sealed when they are used as sites for sewage lagoons. Until sealing occurs, however, the hazard of pollution is severe. Soils that have a Ksat rate of more than 14 micrometers per second are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in contamination of the ground water. Ground-water contamination is also a hazard if fractured bedrock is within a depth of 40 inches, if the water table is high enough to raise the level of sewage in the lagoon, or if floodwater overtops the lagoon.

A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor. If the lagoon is to be uniformly deep throughout, the slope must be gentle enough and the soil material must be thick enough over bedrock or a cemented pan to make land smoothing practical.

A *trench sanitary landfill* is an area where solid waste is placed in successive layers in an excavated trench. The waste is spread, compacted, and covered daily with a thin layer of soil excavated at the site. When the trench is full, a final cover of soil material at least 2 feet thick is placed over the landfill. The ratings in table 17 are based on the soil properties that affect the risk of pollution, the ease of excavation, trafficability, and revegetation. These properties include saturated hydraulic conductivity (Ksat), depth to bedrock or a cemented pan, depth to a water table, ponding, slope, flooding, texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, onsite investigation may be needed.

Hard, nonrippable bedrock, creviced bedrock, or highly permeable strata in or directly below the proposed trench bottom can affect the ease of excavation and the hazard of ground-water pollution. Slope affects construction of the trenches and the movement of surface water around the landfill. It also affects the construction and performance of roads in areas of the landfill.

Soil texture and consistence affect the ease with which the trench is dug and the ease with which the soil can be used as daily or final cover. They determine the workability of the soil when dry and when wet. Soils that are plastic and sticky when wet are difficult to excavate, grade, or compact and are difficult to place as a uniformly thick cover over a layer of refuse.

The soil material used as the final cover for a trench landfill should be suitable for plants. It should not have excess sodium or salts and should not be too acid. The surface layer generally has the best workability, the highest content of organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

In an *area sanitary landfill*, solid waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site. A final cover of soil material at least 2 feet thick is placed over the completed landfill. The ratings in table 17 are based on the soil properties that affect trafficability and the risk of pollution. These properties include flooding, saturated hydraulic conductivity (Ksat), depth to a water table, ponding, slope, and depth to bedrock or a cemented pan.

Flooding is a serious problem because it can result in pollution in areas downstream from the landfill. If the downward movement of water through the soil profile is too rapid or if fractured bedrock, a fractured cemented pan, or the water table is close to the surface, the leachate can contaminate the water supply. Slope is a consideration because of the extra grading required to maintain roads in the steeper areas of the landfill. Also, leachate may flow along the surface of the soils in the steeper areas and cause difficult seepage problems.

Daily cover for landfill is the soil material that is used to cover compacted solid waste in an area sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste. The ratings in table 17 also apply to the final cover for a landfill. They are based on the soil properties that affect workability, the ease of digging, and the ease of moving and spreading the material over the refuse daily during wet and dry periods. These properties include soil texture, depth to a water table, ponding, rock fragments, slope, depth to bedrock or a cemented pan, reaction, and content of salts, sodium, or lime.

Loamy or silty soils that are free of large stones and excess gravel are the best cover for a landfill. Clayey soils may be sticky and difficult to spread; sandy soils are subject to wind erosion.

Slope affects the ease of excavation and of moving the cover material. Also, it can influence runoff, erosion, and reclamation of the borrow area.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. It should not have excess sodium, salts, or lime and should not be too acid.

Construction Materials

Tables 18 and 19 give information about the soils as potential sources of gravel, sand, reclamation material, roadfill, and topsoil. Normal compaction, minor processing, and other standard construction practices are assumed.

Gravel and *sand* are natural aggregates suitable for commercial use with a minimum of processing (fig. 101). They are used in many kinds of construction. Specifications for each use vary widely. In table 18, only the likelihood of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material. The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the bottom layer of the soil contains sand or gravel, the soil is considered a likely source regardless of thickness. The assumption is that the sand or gravel layer below the depth of observation exceeds the minimum thickness.

The soils are rated *good, fair,* or *poor* as potential sources of sand and gravel. A rating of *good* or *fair* means that the source material is likely to be in or below the soil.

Figure 101.—Possible source of sand and gravel for use as construction material in an area of Udifluvents-Riverwash-Water complex, 0 to 3 percent slopes.

The bottom layer and the thickest layer of the soils are assigned numerical ratings. These ratings indicate the likelihood that the layer is a source of sand or gravel. The number 0.00 indicates that the layer is a poor source. The number 1.00 indicates that the layer is a good source. A number between 0.00 and 1.00 indicates the degree to which the layer is a likely source.

In table 19, the rating class terms are *good, fair,* and *poor*. The features that limit the soils as sources of these materials are specified in the table. The numerical ratings given after the specified features indicate the degree to which the features limit the soils as sources of reclamation material, roadfill, and topsoil. The lower the number, the greater the limitation.

Reclamation material is used in areas that have been drastically disturbed by surface mining or similar activities. When these areas are reclaimed, layers of soil material or unconsolidated geological material, or both, are replaced in a vertical sequence. The reconstructed soil favors plant growth. The ratings in the table do not apply to quarries and other mined areas that require an offsite source of reconstruction material. The ratings are based on the soil properties that affect erosion and stability of the surface and the productive potential of the reconstructed soil. These properties include the content of sodium, salts, and calcium carbonate; reaction; available water capacity; erodibility; texture; content of rock fragments; and content of organic matter and other features that affect fertility.

Roadfill is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the whole soil, from the surface to a depth of about 5 feet. It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. The ease of excavation is affected by large stones, depth to a water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the AASHTO classification of the soil) and linear extensibility (shrink-swell potential).

Topsoil is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area. The ratings are based on the soil properties that affect plant growth; the ease of excavating, loading, and spreading the material; and reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water capacity and fertility, affect plant growth. The ease of excavating, loading, and spreading is affected by rock fragments, slope, depth to a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, depth to a water table, rock fragments, depth to bedrock or a cemented pan, and toxic material.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

Water Management

Table 20 gives information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas; embankments, dikes, and levees; and aquifer-fed excavated ponds. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Pond reservoir areas hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the saturated hydraulic conductivity (Ksat) of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

Embankments, dikes, and levees are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. Embankments that have zoned construction (core and shell) are not considered. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of 5 or 6 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect

performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A high water table affects the amount of usable material. It also affects trafficability.

Aquifer-fed excavated ponds are pits or dugouts that extend to a ground-water aquifer or to a depth below a permanent water table. Excluded are ponds that are fed only by surface runoff and embankment ponds that impound water 3 feet or more above the original surface. Excavated ponds are affected by depth to a permanent water table, permeability of the aquifer, and quality of the water as inferred from the salinity of the soil. Depth to bedrock and the content of large stones affect the ease of excavation.

Agricultural Waste Management

Soil properties are important considerations in areas where soils are used as sites for the treatment and disposal of organic waste and wastewater. Selection of soils with properties that favor waste management can help to prevent environmental damage.

Tables 21, 22, and 23 show the degree and kind of soil limitations affecting the treatment of agricultural waste, including municipal and food-processing wastewater and effluent from lagoons or storage ponds. Municipal wastewater is the waste stream from a municipality. It contains domestic waste and may contain industrial waste. It may have received primary or secondary treatment. It is rarely untreated sewage. Food-processing wastewater results from the preparation of fruits, vegetables, milk, cheese, and meats for public consumption. In places it is high in content of sodium and chloride. In the context of these tables, the effluent in lagoons and storage ponds is from facilities used to treat or store food-processing wastewater or domestic or animal waste. Domestic and food-processing wastewater is very dilute, and the effluent from the facilities that treat or store it commonly is very low in content of carbonaceous and nitrogenous material; the content of nitrogen commonly ranges from 10 to 30 milligrams per liter. The wastewater from animal waste treatment lagoons or storage ponds, however, has much higher concentrations of these materials, mainly because the manure has not been diluted as much as the domestic waste. The content of nitrogen in this wastewater generally ranges from 50 to 2,000 milligrams per liter. When wastewater is applied, checks should be made to ensure that nitrogen, heavy metals, and salts are not added in excessive amounts.

The ratings in the tables are for waste management systems that not only dispose of and treat organic waste or wastewater but also are beneficial to crops (application of manure and food-processing waste, application of sewage sludge, and disposal of wastewater by irrigation) and for waste management systems that are designed only for the purpose of wastewater disposal and treatment (overland flow of wastewater, rapid infiltration of wastewater, and slow rate treatment of wastewater).

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect agricultural waste management. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Application of manure and food-processing waste not only disposes of waste material but also can improve crop production by increasing the supply of nutrients in the soils where the material is applied. Manure is the excrement of livestock and poultry, and food-processing waste is damaged fruit and vegetables and the peelings, stems, leaves, pits, and soil particles removed in food preparation. The manure and food-processing waste are either solid, slurry, or liquid. Their nitrogen content varies. A high content of nitrogen limits the application rate. Toxic or otherwise dangerous wastes, such as those mixed with the lye used in food processing, are not considered in the ratings.

The ratings are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, the rate at which the waste is applied, and the method by which the waste is applied. The properties that affect absorption include saturated hydraulic conductivity (Ksat), depth to a water table, ponding, the sodium adsorption ratio, depth to bedrock or a cemented pan, and available water capacity. The properties that affect plant growth and microbial activity include reaction, the sodium adsorption ratio, salinity, and bulk density. The wind erodibility group, the soil erosion factor K, and slope are considered in estimating the likelihood that wind erosion or water erosion will transport the waste material from the application site. Stones, cobbles, a water table, ponding, and flooding can hinder the application of waste. Permanently frozen soils are unsuitable for waste treatment.

Application of sewage sludge not only disposes of waste material but also can improve crop production by increasing the supply of nutrients in the soils where the material is applied. In the context of this table, sewage sludge is the residual product of the treatment of municipal sewage. The solid component consists mainly of cell mass, primarily bacteria cells that developed during secondary treatment and have incorporated soluble organics into their own bodies. The sludge has small amounts of sand, silt, and other solid debris. The content of nitrogen varies. Some sludge has constituents that are toxic to plants or hazardous to the food chain, such as heavy metals and exotic organic compounds, and should be analyzed chemically prior to use.

The content of water in the sludge ranges from about 98 percent to less than 40 percent. The sludge is considered liquid if it is more than about 90 percent water, slurry if it is about 50 to 90 percent water, and solid if it is less than about 50 percent water.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, the rate at which the sludge is applied, and the method by which the sludge is applied. The properties that affect absorption, plant growth, and microbial activity include saturated hydraulic conductivity (Ksat), depth to a water table, ponding, the sodium adsorption ratio, depth to bedrock or a cemented pan, available water capacity, reaction, salinity, and bulk density. The wind erodibility group, the soil erosion factor K, and slope are considered in estimating the likelihood that wind erosion or water erosion will transport the waste material from the application site. Stones, cobbles, a water table, ponding, and flooding can hinder the application of sludge. Permanently frozen soils are unsuitable for waste treatment.

Disposal of wastewater by irrigation not only disposes of municipal wastewater and wastewater from food-processing plants, lagoons, and storage ponds but also can improve crop production by increasing the amount of water available to crops. The ratings in the table are based on the soil properties that affect the design, construction, management, and performance of the irrigation system. The properties that affect design and management include the sodium adsorption ratio, depth to a water table, ponding, available water capacity, saturated hydraulic conductivity (Ksat), slope, and

flooding. The properties that affect construction include stones, cobbles, depth to bedrock or a cemented pan, depth to a water table, and ponding. The properties that affect performance include depth to bedrock or a cemented pan, bulk density, the sodium adsorption ratio, salinity, reaction, and the cation-exchange capacity, which is used to estimate the capacity of a soil to adsorb heavy metals. Permanently frozen soils are not suitable for disposal of wastewater by irrigation.

Overland flow of wastewater is a process in which wastewater is applied to the upper reaches of sloped land and allowed to flow across vegetated surfaces, sometimes called terraces, to runoff-collection ditches. The length of the run generally is 150 to 300 feet. The application rate ranges from 2.5 to 16.0 inches per week. It commonly exceeds the rate needed for irrigation of cropland. The wastewater leaves solids and nutrients on the vegetated surfaces as it flows downslope in a thin film. Most of the water reaches the collection ditch, some is lost through evapotranspiration, and a small amount may percolate to the ground water.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, and the design and construction of the system. Reaction and the cation-exchange capacity affect absorption. Reaction, salinity, and the sodium adsorption ratio affect plant growth and microbial activity. Slope, saturated hydraulic conductivity (Ksat), depth to a water table, ponding, flooding, depth to bedrock or a cemented pan, stones, and cobbles affect design and construction. Permanently frozen soils are unsuitable for waste treatment.

Rapid infiltration of wastewater is a process in which wastewater applied in a level basin at a rate of 4 to 120 inches per week percolates through the soil. The wastewater may eventually reach the ground water. The application rate commonly exceeds the rate needed for irrigation of cropland. Vegetation is not a necessary part of the treatment; hence, the basins may or may not be vegetated. The thickness of the soil material needed for proper treatment of the wastewater is more than 72 inches. As a result, geologic and hydrologic investigation is needed to ensure proper design and performance and to determine the risk of ground-water pollution.

The ratings in the table are based on the soil properties that affect the risk of pollution and the design, construction, and performance of the system. Depth to a water table, ponding, flooding, and depth to bedrock or a cemented pan affect the risk of pollution and the design and construction of the system. Slope, stones, and cobbles also affect design and construction. Saturated hydraulic conductivity (Ksat) and reaction affect performance. Permanently frozen soils are unsuitable for waste treatment.

Slow rate treatment of wastewater is a process in which wastewater is applied to land at a rate normally between 0.5 inch and 4.0 inches per week. The application rate commonly exceeds the rate needed for irrigation of cropland. The applied wastewater is treated as it moves through the soil. Much of the treated water may percolate to the ground water, and some enters the atmosphere through evapotranspiration. The applied water generally is not allowed to run off the surface. Waterlogging is prevented either through control of the application rate or through the use of tile drains, or both.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, and the application of waste. The properties that affect absorption include the sodium adsorption ratio, depth to a water table, ponding, available water capacity, saturated hydraulic conductivity (Ksat), depth to bedrock or a cemented pan, reaction, the cation-exchange capacity, and slope. Reaction, the sodium adsorption ratio, salinity, and bulk density affect plant growth and microbial activity. The wind erodibility group, the soil erosion factor K, and slope are considered in estimating the likelihood of wind erosion or water erosion. Stones, cobbles, a water table, ponding, and flooding can hinder the application of waste. Permanently frozen soils are unsuitable for waste treatment.

Agricultural Waste Management Practices

By Bob Pedersen, Jennifer Zwicke, and Greg Zwicke, Natural Resources Conservation Service.

Dairying is the primary agricultural enterprise in the survey area. A large volume of manure is generated by the animals on the dairies. This manure, when applied on unsaturated soils for crop growth, can be a valuable source of nutrients. The nutrients are used to stimulate the growth of grass forage for the dairy industry. Manure can also be strategically used to help to maintain and improve the physical, chemical, and biological condition of the soils in the area.

Manure can degrade water and air quality if not properly managed. Manure that enters open watercourses can carry bacteria and additional concentrations of nutrients. Bacteria can negatively impact the shellfish population in the waters of the survey area. High levels of bacteria result in closure of the shellfish-growing waters until the bacteria levels are reduced. Excess nutrients, such as phosphorus, can cause excessive growth of algae, affecting aquatic species. Excessive nitrogen in drinking water can cause health problems in humans.

The implementation of on-farm manure management practices is important to reduce agricultural-related pollution of the water resources. Expansive manure storage systems generally are required for storing the manure until the climatic and soil conditions are favorable for application of the manure on the forage-producing fields. The storage facilities typically are designed to accommodate 60 to 120 days of manure accumulation, referred to as the storage period. In this survey area, a manure storage facility designed to store at least 120 days of manure plus rainfall provides the most protection of the environment when the liquid levels are managed properly.

Manure storage facilities in the survey area primarily are liquid waste or roofed solid manure facilities, or a combination of both. The two primary liquid manure storage systems are below-ground, covered tanks and above-ground, uncovered tanks (fig. 102). Uncovered liquid waste storage tanks need to be sized to adequately store the manure generated during the storage period as well as the direct rainfall into the tank. The size of the facilities varies depending on the number of livestock, whether the manure is handled as a solid or liquid, and the days needed to adequately store the manure until it can be environmentally safe to apply to the fields.

A new manure storage design, called a composted bedded pack, allows the manure to be handled as a solid, thereby eliminating the need for an expansive liquid storage tank (USDA, 2010). A composted bedded pack combines animal housing and manure storage in the same building. The manure is actively composted in place and used as bedding for the animals. Although this new system eliminates the need for expansive liquid storage, it requires about 2.0 to 2.5 times more bedding than does the traditional housing system. Sawdust is the optimum choice. With this system, manure only has to be handled once a year when the barn is cleaned out. It is also a flexible system, resulting in little if any odor.

Applying manure at the proper time and the appropriate application rate are important to ensure that the manure does not degrade the environment. The essential elements include soil, manure, and forage tests. Soil tests are needed to evaluate how well the nutrients in the applied manure met the needs of the forage during the growing season. These soil tests are completed from mid-August to mid-October (before the winter rainfall) (Oregon State University, 2003). If a high level of nitrates is present, adjustments should be made in the amount and timing of application during the next growing season. To prevent over-application, soil tests early in spring are important for evaluating the level of nitrogen in the soil prior to application.

High levels of nitrates can have several adverse effects. Nitrates can accumulate in forage and become toxic to livestock. They are easily leached from the soil profile into the groundwater, degrading the quality of the water and possibly causing human health risks. Excessive irrigation can result in leaching of nitrates.

Figure 102.—Above-ground liquid waste storage tank.

If high levels of phosphorus are present, the phosphorus can be transported from the application area and contaminate open watercourses. The phosphorus can result in excessive growth of algae and other plants that damage the aquatic ecosystem of the open watercourses.

A phosphorus index tool is used in Oregon to evaluate the potential for phosphorus to be transported from a field that receives applications of manure. The two factors used to evaluate the potential are transport factors and source factors. The Oregon Phosphorus Index Technical Note 26 (USDA, 2008) is available online at http://www.or.nrcs.usda.gov/technical/ecs/agronomy/agronomy-technotes.html.

Transport Factors	Source Factors
Annual Soil Erosion	Phophorus Soil Test Value
Soil Erosion from Sprinkler Irrigation	Commercial Phosphorus Fertilizer Application Rate
Soil Runoff Class	Commercial Phosphorus Fertilizer Application Method
Soil Flooding Frequency Class	Organic (Manure) Phophorus Source Application Rate
Distance to Surface Waters/ Buffer Width	Organic (Manure) Phophorus Source Application Method
Subsurface Drainage	

Risks associated with high levels of potassium include the accumulation of potassium in forage, causing livestock health problems. Forage tissue tests are recommended when the level of potassium in the soil is more than 250 parts per million. Remedial action is highly recommended if the level is more than 800 parts per million. High levels commonly are an indicator of a pattern of excessive manure application. In this survey area, supplemental potassium seldom is needed because most of the forage already contains high concentrations of potassium. A high level of potassium also results in a decrease in the magnesium adsorption rate, feed intake, and milk production and an increase in water intake and urine output. A higher potential for development of udder edema in fresh cows, a higher incidence of retained placentas, and a higher risk of displaced abomasum can also occur. Also, milk fever can develop in fresh cows during their dry period.

Manure tests are needed to determine the amount of nutrients being applied to the fields (Oregon State University, 2007). The nutrient content of manure is highly dependent on the feed management techniques used. Nutrients also vary depending on the milk production, type of manure storage, period of time manure is stored before field application, and application method. Over-application can degrade the environment and cause health problems for livestock. Under-application can reduce forage yields. Manure samples should be collected from the application device rather than from the manure storage facility. At least two manure samples per year per manure source are recommended—one early in the manure application season and one during the latter part of the forage growing season. Manure samples should be collected for three consecutive years in order to establish an average. After an average has been established, it is only necessary to take manure samples when a shift in farm management could influence the nutrient content.

Forage tests should be completed to determine the nitrate level in the forage (Oregon State University, 2002). The amount of crude protein in the forage is an indicator of the nitrate concentration. A crude protein content of more than 21 percent increases the potential for nitrate toxicity in cows. Forage that has low crude protein content does not remove as much nitrate from the soil. A low crude protein level generally indicates low forage production. The forage crop is not consuming as much nitrogen as may have been predicted, therefore increasing the risk of nitrate leaching into the groundwater. Besides maintaining a healthy herd, a quality feed management program can reduce the amount of nutrients in the excreted manure and reduce the potential odors associated with livestock operations. Feed analysis is part of a good feed management program.

The application of conservation practices can reduce water and air pollution associated with livestock operations. Good practices include feed management to improve efficiency and reduce nutrient output from the animals, an appropriate and adequate manure storage system, storage of manure until climate and soil conditions are favorable, covering manure accumulation areas with a roof or tarp, and separating clean water from contaminated water by guttering, downspouting, and outleting (fig. 103).

Many miles of open watercourses run through the agricultural land in the survey area. Establishing a 35-foot-wide vegetated buffer strip adjacent to these watercourses helps to prevent nutrients from entering the watercourses (Oregon Department of Agriculture, 2009). Manure should not be applied to these vegetated buffer strips. Windspeed should also be considered before manure is applied.

Manure should not be applied to poorly drained and flood-prone soils when there is a risk of flooding or ponding. Manure should not be applied when the soils are saturated or during periods of rainfall that are expected to result in saturated soils or surface runoff. Nutrients should not be applied to frozen or snow-covered soils if there is a potential risk for runoff.

Figure 103.—Conservation practices applied to dairy operations include guttering, downspouting, and outleting rainwater away from manure accumulation sites.

The odor generated from liquid manure application can be reduced by applying manure in mid-morning when the air is warming up and rising rather than in the afternoon or evening when the air is cooling and settling. Avoid manure application during periods of fog. High pressure systems such as big-gun sprayers cause nutrients to volatilize, producing odors (fig. 104); therefore, low pressure systems such as sprinkler bars should be used (fig. 105). Use of soil injection types of manure application systems also reduces the generation of odors. Establishing windbreaks around animal confinement areas can also reduce odors because the windbreaks encourage the upward movement of air and increase the dispersion of the odors (USDA, 2000).

Keeping a liquid manure system either fully anaerobic or fully aerobic helps to control the generation of odors. Partially aerating a tank increases odors due to the flux state of a single system being both aerobic when aerated and anaerobic when not aerated. Significant aeration is needed to maintain a fully aerobic system, generally requiring a significant input of energy and cost (Livestock and Poultry Environmental Learning Center, 2011). Agitation of the manure suspends the solids in the liquid for pumping, and aeration introduces oxygen into the manure. Agitation can also aerate the manure but typically not enough to maintain full aerobic conditions. If odors occur during agitation, it generally is because the liquid system was in an anaerobic state and the introduction of oxygen caused an imbalance that resulted in the production and release of odors. Agitation should be planned in conjunction with pumping to reduce unnecessary release of odors and use of energy.

Chemical amendments have the capacity to change the pH of a liquid system, which changes when odors are generated. Significant additions of chemicals, with significant additional expense, commonly are required to maintain the altered pH. When the pH changes, such as during application, odors can be released. Additionally,

very few chemical amendments have been scientifically proven to reduce odors in agricultural operations (Livestock and Poultry Environmental Learning Center, 2012).

Figure 104.—Liquid manure application using a high pressure system.

Figure 105.—Liquid manure application using low pressure system.

Soil Properties

Data relating to soil properties are collected during the course of the soil survey.

Soil properties are determined by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine particle-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

The estimates of soil properties are shown in tables. They include engineering index properties, physical and chemical properties, and pertinent soil and water features.

Engineering Soil Properties

Table 24 gives the engineering classifications and the range of engineering properties for the layers of each soil in the survey area.

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. “Loam,” for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, “gravelly.” Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system (ASTM, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

Rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages

are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

Physical Soil Properties

Table 25 shows estimates of some physical characteristics and features that affect soil behavior (fig. 106). These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

Figure 106.—Housing development in an area of a Waldport fine sand shows how many physical soil properties and features interact to affect soil behavior. Note the mass movement and erosion of the bluff caused by a recent winter storm.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, saturated hydraulic conductivity (Ksat), plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

The estimated *clay* content of each soil layer is given in the table as a range and representative value (RV), by weight, of the soil material that is less than 2 millimeters in diameter. An example is *5-10-15*. The *5* is the low value for the range, the *10* is the RV, and the *15* is the high value for the range. The estimated content of sand and silt is not given in the table.

Moist bulk density is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at $^{1}/_{3}$- or $^{1}/_{10}$-bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute linear extensibility, shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Saturated hydraulic conductivity (Ksat) refers to the ability of a soil to transmit water or air. The estimates in the table indicate the rate of water movement, in micrometers per second, when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Saturated hydraulic conductivity (Ksat) is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at $^{1}/_{3}$- or $^{1}/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. Volume change is influenced by the amount and type of clay minerals in the soil.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In the table, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter in a soil can be maintained by returning crop residue to the soil. Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

Erosion factors are shown in the table as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and saturated hydraulic conductivity (Ksat). Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor Kw indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Erosion factor Kf indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are described in the “National Soil Survey Handbook,” which is available in local offices of the Natural Resources Conservation Service or on the Internet.

Wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Chemical Properties

Table 26 shows estimates of some chemical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Cation-exchange capacity (CEC) is the total amount of exchangeable cations that can be held by the soil, expressed in terms of centimoles per kilogram. It commonly is measured at neutral pH of 7.0 (CEC-7), but it may be measured at some other stated pH value. Soils that have a low CEC hold fewer cations and may require more frequent applications of fertilizer than those that have a high CEC. The ability to retain cations minimizes the risk of ground-water pollution.

Soil reaction is a measure of acidity or alkalinity. The pH of each soil horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

Calcium carbonate equivalent is the percent of carbonates, by weight, in the fraction of the soil less than 2 millimeters in size. The availability of plant nutrients is influenced by the amount of carbonates in the soil.

Salinity is a measure of soluble salts in the soil at saturation. It is expressed as the electrical conductivity of the saturation extract, in millimhos per centimeter at 25 degrees C. Estimates are based on field and laboratory measurements at representative sites of nonirrigated soils. The salinity of irrigated soils is affected by the quality of the irrigation water and by the frequency of water application. Hence, the salinity of soils in individual fields can differ greatly from the value given in the table.

Salinity affects the suitability of a soil for crop production, the stability of soil if used as construction material, and the potential of the soil to corrode metal and concrete.

Sodium adsorption ratio (SAR) is a measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration. Soils that have SAR values of 13 or more may be characterized by an increased dispersion of organic matter and clay particles, reduced permeability and aeration, and a general degradation of soil structure.

Water Features

Table 27 gives estimates of various water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas.

The *months* in the table indicate the portion of the year in which the feature is most likely to be a concern.

Water table refers to a saturated zone in the soil. The table indicates, by month, depth to the top (*upper limit*) and base (*lower limit*) of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. The table indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and

frequent that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

Flooding is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides (fig. 107). Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

Duration and *frequency* are estimated. Duration is expressed as *extremely brief* if 0.1 hour to 4 hours, *very brief* if 4 hours to 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. *None* means that flooding is not probable; *very rare* that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); *occasional* that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and *very frequent* that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year).

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

Figure 107.—Flooding in an area of Brenner and Coquille soils.

Soil Features

Table 28 gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. The table indicates the hardness and thickness of the restrictive layer, both of which significantly affect the ease of excavation. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

Subsidence is the settlement of organic soils or of saturated mineral soils of very low density. Subsidence generally results from either desiccation and shrinkage or oxidation of organic material, or both, following drainage. Subsidence takes place gradually, usually over a period of several years. The table shows the expected initial subsidence, which usually is a result of drainage, and total subsidence, which results from a combination of factors.

Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, saturated hydraulic conductivity (Ksat), content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low, moderate,* or *high,* is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low, moderate,* or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 1999 and 2006). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. The categories are defined in the following paragraphs.

ORDER. Twelve soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is Andisol.

SUBORDER. Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Udand (*Ud*, meaning humid, plus *and*, from Andisol).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; type of saturation; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Fulvudands (*Fulv*, meaning dark brown color and presence of carbon, plus *udand*, the suborder of the Andisols that has a udic moisture regime).

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic subgroup is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other taxonomic class. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *Typic* identifies the subgroup that typifies the great group. An example is Typic Fulvudands.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size class, mineralogy class, cation-exchange activity class, soil temperature regime, soil depth, and reaction class. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is medial, ferrihydritic, isomesic Typic Fulvudands.

SERIES. The series consists of soils within a family that have horizons similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile.

Table 29 indicates the order, suborder, great group, subgroup, and family of the soil series in the survey area.

Taxonomic Units and Their Morphology

In this section, each taxonomic unit recognized in the survey area is described. Characteristics of the soil and the material in which it formed are identified for each unit. A pedon, a small three-dimensional area of soil, that is typical of the taxonomic unit in the survey area is described. The detailed description of each soil horizon follows standards in the “Soil Survey Manual” (Soil Survey Division Staff, 1993) and in the “Field Book for Describing and Sampling Soils” (Schoeneberger and others, 2002). Many of the technical terms used in the descriptions are defined in “Soil Taxonomy” (Soil Survey Staff, 1999) and in “Keys to Soil Taxonomy” (Soil Survey Staff, 2006). Unless otherwise indicated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the unit.

Alic Hapludands

Depth class: Very deep
Drainage class: Well drained to excessively drained
Landform: Stream terraces and alluvial fans in narrow interior mountain valleys
Parent material: Alluvium derived from igneous rock (terraces) and debris flow deposits derived from igneous rock (fans)
Slope range: 0 to 15 percent
Elevation: 400 to 1,000 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 120 to 210 days

Taxonomic classification: Mesic Alic Hapludands

Reference Pedon

Oi—0 to 1 inch; slightly decomposed plant material; abrupt smooth boundary.

A1—1 to 13 inches; dark brown (7.5YR 3/2) medial loam, brown (10YR 4/3) dry; moderate very fine granular and subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; moderately smeary; common very fine roots; common fine irregular pores; 5 percent gravel; strongly acid (pH 5.4); gradual smooth boundary.

A2—13 to 23 inches; dark brown (7.5YR 3/3) medial loam, brown (10YR 5/3) dry; weak fine and very fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; moderately smeary; many very fine and fine and common medium roots; few fine tubular pores; 5 percent gravel; strongly acid (pH 5.3); gradual smooth boundary.

Bw—23 to 37 inches; dark brown (7.5YR 3/4) medial fine sandy loam, yellowish brown (10YR 5/4) dry; weak fine and very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; moderately smeary; common very fine, fine, medium, and coarse roots; few fine tubular pores; 10 percent gravel; strongly acid (pH 5.2); gradual smooth boundary.

2C—37 to 61 inches; dark brown (7.5YR 3/2) extremely cobbly loamy sand, yellowish brown (10YR 5/4) dry; single grain; nonsticky and nonplastic; 40 percent gravel, 35 percent cobbles, and 10 percent stones; strongly acid (pH 5.2).

Reference Pedon Location

Map unit in which located: Alic Hapludands complex, 3 to 15 percent slopes
Location in survey area: In an area of forestland about 1 mile west of Lees Camp, Oregon, just south of Jones Creek Park along the Wilson River; about 2,600 feet south and 50 feet east of the northwest corner of section 9, T. 1 N., R. 7 W.

Range in Characteristics

Profile
Depth to bedrock—more than 60 inches
Thickness of umbric epipedon—10 to 24 inches
Depth to strongly contrasting textural stratification (stream terraces)—37 to 61 inches
Content of clay in the particle-size control section—15 to 30 percent (apparent, by field estimates)
Content of rock fragments in the particle-size control section—0 to 50 percent in the A horizon and 5 to 85 percent below
Reaction—moderately acid or strongly acid
Hue—7.5YR or 10YR
Depth to redoximorphic features—40 inches or more, where present (stream terraces)

A horizon
Value—2 or 3 moist, 3 to 5 dry
Chroma—2 or 3 moist, 3 or 4 dry
Texture—medial loam or very gravelly medial loam
Content of clay—15 to 27 percent (apparent, by field estimates)
Content of rock fragments—0 to 50 percent gravel and 0 to 10 percent cobbles, with 0 to 50 percent total
Consistence—weakly smeary or moderately smeary

Bw horizon
Value—3 or 4 moist, 4 or 5 dry
Chroma—4 to 6 moist or dry
Texture—medial fine sandy loam, medial loam, gravelly medial loam, medial clay loam, very gravelly medial loam, or extremely gravelly medial loam
Content of clay—15 to 30 percent (apparent, by field estimates)
Content of rock fragments—0 to 70 percent gravel and 0 to 10 percent cobbles, with 5 to 85 percent total
Consistence—weakly smeary or moderately smeary

2C horizon (stream terraces only)
Value—3 or 4 moist, 4 or 5 dry
Chroma—2 to 4 moist, 3 or 4 dry
Texture—extremely cobbly loamy sand, extremely gravelly loamy sand, or extremely cobbly sandy loam
Content of clay—3 to 15 percent (apparent, by field estimates)
Content of rock fragments—25 to 70 percent gravel, 0 to 35 percent cobbles, and 0 to 10 percent stones, with 60 to 85 percent total

Apt Series

Depth class: Very deep
Drainage class: Well drained
Landform: Mountains
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 5 to 50 percent
Elevation: 200 to 2,200 feet
Mean annual precipitation: 80 to 120 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 210 days

Taxonomic classification: Fine, isotic, mesic Typic Haplohumults

Typical Pedon

Oi—0 to 1 inch; slightly decomposed plant material; clear smooth boundary.

A—1 to 6 inches; very dark brown (10YR 2/2) silty clay loam, dark grayish brown (10YR 4/2) dry; strong fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; moderately smeary; many very fine roots; many very fine irregular pores; very strongly acid (pH 4.8); clear smooth boundary.

AB—6 to 11 inches; very dark grayish brown (10YR 3/2) silty clay loam, grayish brown (10YR 5/2) dry; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; many very fine and common medium roots; many very fine tubular pores; few very dark brown (10YR 2/2) organic coatings on faces of peds; few fine black (7.5YR 2/1) manganese masses and common fine dark brown (7.5YR 3/3) iron-manganese nodules in matrix that are spherical and very weakly cemented; very strongly acid (pH 4.8); clear smooth boundary.

Bt1—11 to 18 inches; dark brown (10YR 3/3) silty clay, brown (10YR 5/3) dry; moderate medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; many very fine, fine, and medium roots; many very fine and fine tubular pores; few distinct clay films along surfaces of pores; very strongly acid (pH 5.0); abrupt smooth boundary.

Bt2—18 to 27 inches; dark yellowish brown (10YR 3/4) silty clay, light yellowish brown (10YR 6/4) dry; moderate fine and medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; common very fine, fine, and medium roots; common very fine tubular pores; few distinct clay films on faces of peds and along surfaces of pores; very strongly acid (pH 5.0); clear smooth boundary.

Bt3—27 to 37 inches; strong brown (7.5YR 4/6) clay, light brown (7.5YR 6/4) dry; moderate fine and very fine subangular blocky structure; very hard, firm, moderately sticky and very plastic; few fine and medium roots; many very fine tubular pores; common distinct clay films on faces of peds and common prominent clay films along surfaces of pores; very strongly acid (pH 5.0); clear smooth boundary.

Bt4—37 to 51 inches; strong brown (7.5YR 4/6) clay, reddish yellow (7.5YR 6/6) dry; weak fine and medium subangular blocky structure; very hard, firm, moderately sticky and very plastic; few fine, medium, and coarse roots; many very fine tubular pores; common distinct clay films on faces of peds and common prominent clay films along surfaces of pores; very strongly acid (pH 5.0); clear smooth boundary.

BCt—51 to 66 inches; strong brown (7.5YR 5/6) silty clay loam, reddish yellow (7.5YR 7/6) dry; weak medium and coarse subangular blocky structure; very hard, firm, moderately sticky and very plastic; few fine, medium, and coarse roots; many very fine tubular pores; few faint clay films on faces of peds and along surfaces of pores; very strongly acid (pH 5.0).

Typical Pedon Location

Map unit in which located: Apt silty clay loam in an area of Apt-McDuff complex, 5 to 30 percent slopes; Benton County, Oregon

Location: In an area of forestland about 10 feet north and 10 feet east of the southwest corner of section 23, T. 10 S., R. 7 W.

Range in Characteristics

Profile
Depth to bedrock—more than 60 inches to weakly cemented, highly weathered paralithic contact
Thickness of umbric epipedon—10 to 20 inches, including upper part of Bt horizon
Content of clay in the particle-size control section—45 to 60 percent
Content of rock and pararock fragments in the particle-size control section—0 to 10 percent rock fragments and 0 to 35 percent pararock fragments
Reaction—very strongly acid or strongly acid
Hue—7.5YR or 10YR

A horizon
Value—2 or 3 moist, 4 or 5 dry
Chroma—2 or 3 moist or dry
Texture—silty clay loam in upper part and silty clay loam or paragravelly silty clay loam in lower part (AB horizon)
Content of clay—27 to 35 percent
Content of rock and pararock fragments—0 to 10 percent gravel and 0 to 20 percent paragravel
Consistence—weakly smeary or moderately smeary

Bt horizon
Value—3 or 4 moist, 5 or 6 dry
Chroma—3 to 6 moist or dry
Texture—silty clay, clay, paragravelly silty clay, or very paragravelly silty clay
Content of clay—45 to 60 percent
Content of rock and pararock fragments—0 to 10 percent gravel, 0 to 35 percent paragravel, and 0 to 5 percent paracobbles

BCt horizon
Value—4 or 5 moist, 5 to 7 dry
Chroma—4 to 6 moist or dry
Texture—silty clay loam, extremely paragravelly silty clay, very paragravelly silty clay, or paragravelly clay
Content of clay—30 to 45 percent
Content of rock and pararock fragments—0 to 10 percent gravel, 0 to 50 percent paragravel, and 0 to 5 percent paracobbles

Aquepts

Depth class: Very deep
Drainage class: Poorly drained
Landform: Narrow mountain valley flood plains and narrow coastal valley flood plains
Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 0 to 3 percent
Elevation: 20 to 1,900 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 120 to 260 days

Taxonomic classification: Isomesic and mesic Aquepts

Reference Pedon

A—0 to 6 inches; dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; moderate fine and very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many fine and medium roots; many very fine irregular and tubular pores; few fine distinct dark brown (7.5YR 3/4) iron masses on peds and in pores; few fine faint dark grayish brown (10YR 4/2) iron depletions on peds; very strongly acid (pH 4.6); clear smooth boundary.

Bw—6 to 18 inches; dark grayish brown (2.5Y 4/2) silty clay loam, light brownish gray (2.5Y 6/2) dry; moderate medium and fine subangular blocky structure; hard, firm, moderately sticky and moderately plastic; common medium roots; common very fine tubular pores; common fine prominent dark reddish brown (5YR 3/4) iron masses on peds and in pores; slightly acid (pH 6.4); gradual smooth boundary.

C1—18 to 31 inches; dark grayish brown (2.5Y 4/2) silty clay, light brownish gray (2.5Y 6/2) dry; massive; moderately hard, firm, moderately sticky and moderately plastic; few medium roots; few fine tubular pores; common fine prominent dark reddish brown (5YR 3/4) iron masses in matrix and pores; slightly acid (pH 6.4); gradual smooth boundary.

C2—31 to 51 inches; grayish brown (2.5Y 5/2) silty clay loam, light gray (2.5Y 7/2) dry; massive; hard, firm, moderately sticky and moderately plastic; few fine and very fine tubular pores; many fine prominent strong brown (7.5YR 5/8) and common fine prominent dark brown (7.5YR 4/4) iron masses in matrix and pores; moderately acid (pH 5.6); clear smooth boundary.

C3—51 to 60 inches; gray (5Y 5/1) clay loam, light gray (10YR 7/1) dry; massive; moderately hard, firm, moderately sticky and moderately plastic; few fine and very fine tubular pores; common fine prominent strong brown (7.5YR 5/8) iron masses in matrix and pores; 5 percent rounded siltstone paragravel; very strongly acid (pH 4.5).

Reference Pedon Location

Map unit in which located: Dystrudepts-Aquepts complex, 0 to 7 percent slopes

Location in survey area: In an area of native vegetation about 3.1 miles south of Dolph, Oregon; about 2,050 feet west and 100 feet north of the southeast corner of section 9, T. 6 S., R. 9. W.

Range in Characteristics

Profile

Depth to bedrock—more than 60 inches
Depth to depletions with chroma of 2 or less—0 to 10 inches
Depth to depleted matrix with chroma of 2 or less—0 to 10 inches
Reaction—slightly acid to very strongly acid

A horizon

Hue—10YR
Value—2 or 3 moist, 3 to 5 dry
Chroma—1 to 3 moist or dry
Texture—silt loam or mucky silty clay loam
Content of clay—18 to 30 percent
Content of rock and pararock fragments—0 to 10 percent basalt gravel, 0 to 10 percent basalt cobbles, and 0 to 10 percent sedimentary paragravel, with 0 to 15 percent total rock fragments and 0 to 10 percent total pararock fragments

Bw and Bg horizons, where present

Hue—10YR to 5GY
Value—3 to 6 moist, 5 to 7 dry

Chroma—2 or less moist or dry
Texture—silty clay loam, silt loam, silty clay, clay loam, or loam
Content of clay—18 to 45 percent
Content of rock and pararock fragments—0 to 10 percent basalt gravel, 0 to 10 percent basalt cobbles, and 0 to 10 percent sedimentary paragravel, with 0 to 15 percent total rock fragments and 0 to 10 percent total pararock fragments

C, Cg, and 2C horizons, where present
Hue—10YR to 10BG
Value—3 to 6 moist, 5 to 7 dry
Chroma—2 or less moist or dry
Texture—silty clay, fine sandy loam, clay loam, silty clay loam, paragravelly sandy clay loam, sandy clay loam, extremely gravelly loamy sand, extremely cobbly sandy loam, very cobbly sandy clay loam, very gravelly fine sandy loam, gravelly sandy loam, or cobbly fine sandy loam
Content of clay—10 to 45 percent
Content of rock and pararock fragments—0 to 60 percent basalt gravel, 0 to 35 percent basalt cobbles, 0 to 10 percent basalt stones, and 0 to 35 percent sedimentary paragravel, with 0 to 75 percent total rock fragments and 0 to 35 percent total pararock fragments

Ascar Series

Depth class: Moderately deep
Drainage class: Well drained
Landform: Mountains
Parent material: Colluvium derived from igneous rock
Slope range: 30 to 90 percent
Elevation: 50 to 1,800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Taxonomic classification: Medial-skeletal, ferrihydritic, isomesic Typic Fulvudands

Typical Pedon

Oi—0 to 1 inch; slightly decomposed plant material; abrupt smooth boundary.
A1—1 to 9 inches; very dark brown (10YR 2/2) extremely gravelly medial loam, very dark brown (10YR 2/2) dry; weak fine granular structure; slightly hard, very friable, slightly sticky and slightly plastic; moderately smeary; common very fine, fine, and medium and few coarse roots; few fine irregular pores; 55 percent gravel and 10 percent cobbles; strongly acid (pH 5.4); abrupt smooth boundary.
A2—9 to 25 inches; very dark brown (10YR 2/2) extremely cobbly medial loam, very dark grayish brown (10YR 3/2) dry; weak very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; common very fine, fine, and medium and few coarse roots; 40 percent gravel and 25 percent cobbles; strongly acid (pH 5.2); clear wavy boundary.
Bw—25 to 39 inches; dark brown (10YR 3/3) extremely cobbly medial loam, dark brown (10YR 3/3) dry; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; common fine and few medium and coarse roots; 40 percent gravel, 40 percent cobbles, and 5 percent stones; strongly acid (pH 5.2); clear wavy boundary.
R—39 inches; fractured, slightly weathered, dark brown volcanic rock.

Typical Pedon Location

Map unit in which located: Necanicum-Ascar-Klootchie complex, 60 to 90 percent slopes (fig. 108)

Location in survey area: In an area of forestland about 3 miles northeast of Bay City, Oregon; about 1,800 feet north and 1,200 feet east of the southwest corner of section 30, T. 1 N., R. 9 W.

Range in Characteristics

Profile

Depth to bedrock—20 to 40 inches
Thickness of umbric epipedon—17 to 40 inches
Content of rock fragments in the particle-size control section—35 to 85 percent
Hue—10YR or 7.5YR
Reaction—very strongly acid or strongly acid

Figure 108.—Typical profile of Ascar extremely gravelly medial loam in an area of Necanicum-Ascar-Klootchie complex, 60 to 90 percent slopes.

A1 horizon
Value—2 or 3 moist, 2 to 4 dry
Chroma—2 or 3 moist, 2 to 4 dry
Texture—extremely gravelly medial loam
Content of clay—10 to 20 percent (apparent, by field estimates)
Content of rock fragments—50 to 70 percent gravel, 5 to 15 percent cobbles, and 0 to 5 percent stones
Consistence—weakly smeary or moderately smeary

A2 horizon
Value—2 or 3 moist, 2 to 4 dry
Chroma—2 or 3 moist, 2 to 4 dry
Texture—extremely cobbly medial loam, very gravelly medial loam, very cobbly medial loam, or extremely gravelly medial loam
Content of clay—15 to 20 percent (apparent, by field estimates)
Content of rock fragments—30 to 55 percent gravel, 5 to 30 percent cobbles, and 0 to 5 percent stones
Consistence—weakly smeary or moderately smeary

Bw horizon
Value—3 or 4 moist or dry
Chroma—3 or 4 moist or dry
Texture—extremely cobbly medial loam, very gravelly medial loam, very cobbly medial loam, or extremely gravelly medial loam
Content of clay—18 to 27 percent (apparent, by field estimates)
Content of rock fragments—30 to 60 percent gravel, 10 to 40 percent cobbles, and 0 to 5 percent stones
Consistence—weakly smeary or moderately smeary

Astoria Series

Depth class: Deep
Drainage class: Well drained
Landform: Mountains
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 5 to 60 percent
Elevation: 300 to 2,000 feet
Mean annual precipitation: 80 to 120 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 210 days

Taxonomic classification: Fine, isotic, mesic Andic Dystrudepts

Typical Pedon

Oi—0 to 1 inch; slightly decomposed plant material; abrupt smooth boundary.
A1—1 to 8 inches; dark brown (7.5YR 3/2) medial silt loam, brown (7.5YR 4/3) dry; moderate fine and very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; many fine and very fine and common medium roots; many very fine irregular pores; 5 percent sandstone paragravel; very strongly acid (pH 4.6); clear wavy boundary.
A2—8 to 12 inches; dark brown (7.5YR 3/2) silty clay loam, brown (7.5YR 5/3) dry; moderate fine and very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; common very fine and fine and

few medium roots; many very fine irregular and tubular pores; extremely acid (pH 4.4); clear wavy boundary.

Bw1—12 to 25 inches; dark brown (7.5YR 3/4) silty clay loam, strong brown (7.5YR 4/6) dry; moderate fine subangular blocky structure; hard, firm, moderately sticky and moderately plastic; common medium and fine roots; many very fine and common fine tubular pores; 5 percent sandstone paragravel; very strongly acid (pH 4.6); clear wavy boundary.

Bw2—25 to 37 inches; brown (7.5YR 4/4) paragravelly silty clay loam, strong brown (10YR 5/8) dry; moderate fine subangular blocky structure; hard, firm, moderately sticky and moderately plastic; common fine and medium roots; many very fine tubular pores; 25 percent sandstone paragravel; extremely acid (pH 4.4); clear wavy boundary.

BC—37 to 51 inches; brown (7.5YR 4/4) extremely paragravelly clay loam, strong brown (7.5YR 5/8) dry; weak fine subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few fine and medium roots; many very fine tubular pores; 65 percent sandstone paragravel; very extremely acid (pH 4.4); clear wavy boundary.

Cr—51 inches; highly fractured sandstone.

Typical Pedon Location

Map unit in which located: Astoria medial silt loam, 5 to 30 percent slopes

Location in survey area: In an area of forestland about 3 miles east of Mount Hebo; about 2,550 feet north and 600 feet west of the southeast corner of section 16, T. 4 S., R. 8 W.

Range in Characteristics

Profile

Depth to bedrock—40 to 60 inches

Thickness of umbric epipedon—10 to 20 inches

Content of clay in the particle-size control section—35 to 50 percent

Content of rock and pararock fragments in the particle-size control section—0 to 10 percent gravel and 0 to 40 percent paragravel

Hue—10YR or 7.5YR

Reaction—extremely acid or very strongly acid

A1 horizon

Value—2 or 3 moist, 3 to 5 dry

Chroma—2 or 3 moist or dry

Texture—medial silt loam

Content of clay—20 to 27 percent (apparent, by field estimates)

Content of rock and pararock fragments—0 to 10 percent gravel and 0 to 10 percent paragravel

Consistence—weakly smeary or moderately smeary

A2 horizon

Value—2 or 3 moist, 3 to 5 dry

Chroma—2 or 3 moist or dry

Texture—silty clay loam, silt loam, or medial silt loam

Content of clay—20 to 35 percent (apparent, by field estimates)

Content of rock and pararock fragments—0 to 10 percent gravel and 0 to 10 percent paragravel

Consistence—weakly smeary or moderately smeary

Bw horizon

Value—3 to 5 moist, 4 to 6 dry

Chroma—4 to 6 moist, 4 to 8 dry

Texture—silty clay loam, paragravelly silty clay loam, silty clay, clay, paragravelly silty clay, or paragravelly clay
Content of clay—35 to 50 percent
Content of rock and pararock fragments—0 to 10 percent gravel and 0 to 25 percent paragravel

BC horizon
Value—4 or 5 moist, 5 or 6 dry
Chroma—4 to 6 moist, 6 to 8 dry
Texture—extremely paragravelly clay loam, silty clay loam, very paragravelly silty clay loam, or very paragravelly clay loam
Content of clay—30 to 40 percent
Content of rock and pararock fragments—0 to 10 percent gravel and 0 to 65 percent paragravel

Bohannon Series

Depth class: Moderately deep
Drainage class: Well drained
Landform: Mountains
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 5 to 60 percent
Elevation: 200 to 2,000 feet
Mean annual precipitation: 80 to 120 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 210 days

Taxonomic classification: Fine-loamy, isotic, mesic Andic Dystrudepts

Typical Pedon

Oi—0 to 1 inch; slightly decomposed plant material; abrupt smooth boundary.
A—1 to 13 inches; dark brown (7.5YR 3/2) medial loam, brown (10YR 4/3) dry; moderate fine and very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; many very fine and few fine and medium roots; many very fine irregular pores; 10 percent siltstone paragravel; very strongly acid (pH 4.6); clear wavy boundary.
Bw1—13 to 26 inches; dark brown (7.5YR 3/4) paragravelly clay loam, yellowish brown (10YR 5/4) dry; moderate very fine subangular blocky structure; slightly hard, friable, moderately sticky and slightly plastic; common very fine, fine, and medium and few coarse roots; many very fine tubular pores; 25 percent siltstone paragravel; very strongly acid (pH 4.6); clear wavy boundary.
Bw2—26 to 38 inches; brown (7.5YR 4/4) very paragravelly clay loam, yellowish brown (10YR 5/6) dry; moderate very fine subangular blocky structure; slightly hard, friable, moderately sticky and slightly plastic; common very fine and few medium and coarse roots; many very fine tubular pores; 55 percent siltstone paragravel; extremely acid (pH 4.4); clear wavy boundary.
Cr—38 inches; highly fractured, moderately cemented siltstone.

Typical Pedon Location

Map unit in which located: Preacher-Bohannon complex, 35 to 60 percent slopes
Location in survey area: In an area of forestland about 3.2 miles northeast of Mount Hebo; about 1,150 feet north and 250 feet west of the southeast corner of section 9, T. 4 S., R. 8 W.

Range in Characteristics

Profile
Depth to bedrock—20 to 40 inches
Thickness of umbric epipedon—7 to 18 inches
Content of clay in the particle-size control section—20 to 35 percent
Content of rock and pararock fragments in the particle-size control section—0 to 10 percent rock fragments and 10 to 50 percent pararock fragments
Hue—10YR or 7.5YR
Reaction—extremely acid to strongly acid

A horizon
Value—2 or 3 moist, 4 or 5 dry
Chroma—2 or 3 moist or dry
Texture—medial loam
Content of clay—15 to 25 percent (apparent, by field estimates)
Content of rock and pararock fragments—0 to 10 percent gravel, 0 to 5 percent cobbles, and 0 to 15 percent paragravel
Consistence—weakly smeary or moderately smeary

Bw1 horizon
Value—3 or 4 moist, 4 to 6 dry
Chroma—4 to 6 moist, 3 to 6 dry
Texture—paragravelly clay loam, paragravelly loam, or clay loam
Content of clay—20 to 35 percent
Content of rock and pararock fragments—0 to 10 percent gravel, 0 to 5 percent cobbles, and 0 to 30 percent paragravel

Bw2 horizon
Value—3 or 4 moist, 4 to 6 dry
Chroma—4 to 6 moist, 3 to 6 dry
Texture—very paragravelly clay loam, very paragravelly loam, paragravelly loam, loam, or clay loam
Content of clay—20 to 35 percent
Content of rock and pararock fragments—0 to 10 percent gravel, 0 to 5 percent cobbles, 0 to 60 percent paragravel, and 0 to 15 percent paracobbles

Braun Series

Depth class: Moderately deep
Drainage class: Well drained
Landform: Mountains
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 30 to 90 percent
Elevation: 1,000 to 2,000 feet
Mean annual precipitation: 80 to 120 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 210 days

Taxonomic classification: Fine-loamy, isotic, mesic Dystric Eutrudepts

Typical Pedon

Oi—0 to 1 inch; slightly decomposed plant material; abrupt smooth boundary.
A—1 to 4 inches; very dark grayish brown (10YR 3/2) silt loam, brown (10YR 5/3) dry; moderate very fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and common coarse roots; many very fine irregular

pores; 10 percent soft siltstone gravel; strongly acid (pH 5.2); clear smooth boundary.

BA—4 to 10 inches; dark yellowish brown (10YR 4/4) silt loam, pale brown (10YR 6/3) dry; moderate very fine granular and subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many fine roots; many very fine irregular pores; 10 percent soft siltstone gravel; very strongly acid (pH 5.0); gradual wavy boundary.

Bw1—10 to 21 inches; brown (7.5YR 4/4) paragravelly silt loam, light yellowish brown (10YR 6/4) dry; moderate very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many fine roots; many very fine tubular pores; 25 percent soft siltstone gravel; very strongly acid (pH 5.0); gradual wavy boundary.

Bw2—21 to 30 inches; strong brown (7.5YR 4/6) paragravelly silt loam, light yellowish brown (10YR 6/4) dry; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common fine roots; many very fine tubular pores; 30 percent soft siltstone gravel; very strongly acid (pH 5.0); gradual wavy boundary.

Bw3—30 to 36 inches; strong brown (7.5YR 5/6) paragravelly silt loam, pink (7.5YR 7/4) dry; moderate very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few fine roots; many very fine tubular pores; 15 percent soft siltstone gravel; very strongly acid (pH 5.0); abrupt smooth boundary.

Cr—36 inches; fractured siltstone.

Typical Pedon Location

Map unit in which located: Braun silt loam in an area of Scaponia-Braun silt loams, 30 to 60 percent slopes; Clatsop County, Oregon

Location: In an area of forestland about 300 feet northeast of road along the North Fork of Wolf Creek; about 2,300 feet north and 900 feet west of the southeast corner of section 35, T. 4 N., R. 6 W.

Range in Characteristics

Profile

Depth to bedrock—20 to 40 inches
Hue—10YR or 7.5YR
Reaction—very strongly acid or strongly acid

A horizon

Value—3 or 4 moist, 5 or 6 dry
Chroma—2 or 3 moist or dry
Texture—silt loam
Content of clay—14 to 18 percent
Content of pararock fragments—5 to 15 percent paragravel

BA horizon

Value—4 or 5 moist, 6 or 7 dry
Chroma—2 to 4 moist or dry
Texture—silt loam, paragravelly silt loam, or paracobbly silt loam
Content of clay—18 to 25 percent
Content of pararock fragments—5 to 25 percent paragravel and 0 to 15 percent paracobbles

Bw horizon

Value—4 or 5 moist, 6 or 7 dry
Chroma—3 to 6 moist or dry

Texture—paragravelly silt loam, silt loam, loam, paragravelly loam, paracobbly silt loam, or very paracobbly silt loam
Content of clay—18 to 25 percent
Content of pararock fragments—5 to 40 percent paragravel and 0 to 25 percent paracobbles

Brenner Series

Depth class: Very deep
Drainage class: Poorly drained
Landform: Flood plains of coastal lowlands and valleys
Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 0 to 1 percent
Elevation: 10 to 200 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 300 days

Taxonomic classification: Fine-silty, mixed, superactive, acid, isomesic Fluvaquentic Humaquepts

Typical Pedon

Ap—0 to 7 inches; very dark grayish brown (10YR 3/2) silt loam, brown (10YR 5/3) dry; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine roots; many very fine tubular pores; few fine distinct brown (7.5YR 4/4) iron-manganese masses on peds and in pores; moderately acid (pH 5.8); clear smooth boundary.
A—7 to 12 inches; dark brown (10YR 3/3) silty clay loam, brown (10YR 5/3) dry; moderate fine and very fine subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; many very fine roots; many very fine tubular pores; many fine distinct brown (7.5YR 4/4) iron-manganese masses on peds and in pores; many faint dark grayish brown (10YR 4/2) iron depletions on peds; strongly acid (pH 5.5); clear smooth boundary.
Bw1—12 to 18 inches; dark grayish brown (10YR 4/2) silty clay loam, light brownish gray (10YR 6/2) dry; moderate medium and fine subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; many very fine roots; many very fine tubular pores; many fine and medium distinct brown (7.5YR 4/4) iron-manganese masses on peds and in pores; strongly acid (pH 5.5); clear smooth boundary.
Bw2—18 to 26 inches; dark grayish brown (10YR 4/2) silty clay loam, light brownish gray (10YR 6/2) dry; moderate medium subangular blocky structure; moderately hard, firm, moderately sticky and moderately plastic; few very fine roots; many very fine tubular pores; common fine and medium prominent dark reddish brown (5YR 3/4) iron-manganese masses on peds and in pores; strongly acid (pH 5.5); gradual smooth boundary.
BC—26 to 40 inches; very dark gray (10YR 3/1) silty clay loam, grayish brown (2.5Y 5/2) dry; weak coarse prismatic structure; hard, firm, moderately sticky and moderately plastic; few very fine roots; common fine and very fine and few medium and coarse pores; many fine and medium prominent yellowish red (5YR 4/6) iron-manganese masses in pores; strongly acid (pH 5.5); gradual smooth boundary.
Cg1—40 to 55 inches; greenish black (10Y 2.5/1) silty clay, very dark gray (10YR 3/1) dry; massive; very hard, firm, moderately sticky and moderately plastic; common very fine tubular pores; common fine and medium prominent strong brown (7.5YR

4/6) iron-manganese masses in pores; moderately acid (pH 5.8); gradual smooth boundary.
Cg2—55 to 60 inches; dark greenish gray (10Y 3/1) silty clay, grayish brown (2.5Y 5/2) and olive gray (5Y 5/2) dry; massive; extremely hard, very firm, moderately sticky and moderately plastic; few very fine tubular pores; moderately acid (pH 5.8).

Typical Pedon Location

Map unit in which located: Brenner silt loam, 0 to 1 percent slopes
Location in survey area: In an area of pastureland about 1,100 feet south and 250 feet west of the northeast corner of section 20, T. 1 S., R. 9 W.

Range in Characteristics

Profile
Depth to bedrock—more than 60 inches
Thickness of umbric epipedon—10 to 14 inches
Depth to redoximorphic features—at the soil surface (throughout profile)

Ap and A horizons
Hue—10YR
Value—2 or 3 moist, 4 or 5 dry
Chroma—1 to 3 moist or dry
Texture—silt loam in the upper part and silt loam or silty clay loam in the lower part
Content of clay—20 to 30 percent
Redoximorphic features—faint to prominent
Reaction: Natural phase—strongly acid or moderately acid; protected phase—extremely acid or very strongly acid

Bw, Bg, and BC horizons, where present
Hue—10YR or 2.5Y
Value—3 to 5 moist, 5 to 7 dry
Chroma—1 or 2 moist or dry
Texture—silty clay loam or silt loam
Content of clay—20 to 35 percent
Redoximorphic features—distinct or prominent
Reaction: Natural phase—strongly acid; protected phase—extremely acid or very strongly acid

C and Cg horizons, where present
Hue—10YR to 10Y
Value—2.5 to 5 moist, 3 to 7 dry
Chroma—neutral to 2 moist or dry
Texture—silty clay loam or silty clay
Redoximorphic features—none to prominent
Content of clay—27 to 50 percent
Reaction: Natural phase—moderately acid; protected phase—extremely acid or very strongly acid
Other features—large wood fragments in some pedons; moderately coarse textured material in some pedons

Caterl Series

Depth class: Deep, and very deep in some areas
Drainage class: Well drained
Landform: Mountains

Parent material: Colluvium derived from igneous rock and colluvium derived from igneous rock over tuff or colluvium derived from igneous rock over glacial till in some areas
Slope range: 3 to 90 percent
Elevation: 1,800 to 3,000
Mean annual precipitation: 100 to 130 inches
Mean annual air temperature: 42 to 46 degrees F
Frost-free period: 60 to 100 days

Taxonomic classification: Medial-skeletal, ferrihydritic, frigid Alic Hapludands

Typical Pedon

Oi—0 to 1 inch; slightly decomposed plant material; abrupt smooth boundary.

A1—1 to 6 inches; very dark brown (10YR 2/2) gravelly medial loam, brown (10YR 4/3) dry; moderate very fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; moderately smeary; many very fine and fine and common medium roots; many very fine and fine irregular pores; 20 percent iron-manganese concretions 0.5 to 5.0 millimeters in size; 25 percent gravel and 5 percent cobbles; strongly acid (pH 5.2); clear smooth boundary.

A2—6 to 12 inches; dark brown (7.5YR 3/2) very gravelly medial loam, brown (10YR 5/3) dry; moderate very fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; moderately smeary; many very fine and fine and common medium roots; many very fine and fine irregular pores; 20 percent iron-manganese concretions 0.5 to 5.0 millimeters in size; 35 percent gravel and 5 percent cobbles; very strongly acid (pH 5.0); clear wavy boundary.

A3—12 to 18 inches; dark brown (7.5YR 3/3) very gravelly medial loam, brown (10YR 5/3) dry; moderate very fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; moderately smeary; many very fine and fine and few medium roots; many very fine and fine irregular pores; 15 percent iron-manganese concretions 0.5 to 5.0 millimeters in size; 40 percent gravel and 5 percent cobbles; very strongly acid (pH 5.0); gradual wavy boundary.

Bw—18 to 35 inches; dark brown (7.5YR 3/4) very gravelly medial loam, yellowish brown (10YR 5/4) dry; moderate very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; moderately smeary; common very fine and fine and few medium roots; many very fine and fine irregular pores; 10 percent iron-manganese concretions 0.5 to 5.0 millimeters in size; 45 percent gravel and 10 percent cobbles; very strongly acid (pH 4.8); clear wavy boundary.

BC—35 to 53 inches; dark brown (7.5YR 3/4) extremely cobbly medial loam, yellowish brown (10YR 5/4) dry; weak very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; moderately smeary; common very fine and fine and few medium roots; many very fine and fine irregular pores; 5 percent iron-manganese concretions 0.5 to 5.0 millimeters in size; 45 percent gravel and 30 percent cobbles; very strongly acid (pH 4.8); gradual irregular boundary.

R—53 inches; fractured basalt; BC horizon material in fractures.

Typical Pedon Location

Map unit in which located: Murtip-Caterl-Laderly complex, 30 to 60 percent slopes (fig. 109)
Location in survey area: In an area of forestland about 1,900 feet west and 2,300 feet south of the northeast corner of section 10, T. 3 N., R. 6 W.

Figure 109.—Typical profile of Caterl gravelly medial loam in an area of Murtip-Caterl-Laderly complex, 30 to 60 percent slopes.

Range in Characteristics

Profile

Depth to bedrock—typically 40 to 60 inches, but more than 60 inches in areas of the Caterl soils, till substratum

Thickness of umbric epipedon—10 to 20 inches

Content of rock fragments in particle-size control section—15 to 80 percent, but averages more than 35 percent

Hue—10YR to 5YR

Reaction—very strongly acid to moderately acid
Consistence—weakly smeary or moderately smeary throughout

A1 horizon
Value—2 or 3 moist, 4 or 5 dry
Chroma—2 or 3 moist, 3 or 4 dry
Texture—gravelly medial loam in the Caterl soils; very cobbly medial loam in the Caterl soils, till substratum, and Caterl soils, clayey
Content of clay—12 to 20 percent (apparent, by field estimates)
Content of rock fragments—15 to 30 percent gravel, 0 to 30 percent cobbles, and 0 to 5 percent stones

A2 and A3 horizons, where present
Value—2 or 3 moist, 4 or 5 dry
Chroma—2 or 3 moist, 3 or 4 dry
Texture—very gravelly medial loam, gravelly medial loam, or very cobbly medial loam
Content of clay—12 to 25 percent (apparent, by field estimates)
Content of rock fragments—15 to 45 percent gravel, 0 to 30 percent cobbles, and 0 to 5 percent stones

Bw horizon, and Bw1 horizon, where present
Value—3 to 5 moist, 4 to 6 dry
Chroma—3 or 4 moist, 4 to 6 dry
Texture—very gravelly medial loam, very gravelly medial clay loam, extremely gravelly medial loam, extremely gravelly medial clay loam, very cobbly medial loam, very cobbly medial clay loam, extremely cobbly medial loam, or extremely cobbly medial clay loam
Content of clay—18 to 30 percent (apparent, by field estimates)
Content of rock fragments—15 to 70 percent gravel, 0 to 50 percent cobbles, and 0 to 10 percent stones

Bw2 horizon, where present
Value—3 to 5 moist, 4 to 6 dry
Chroma—4 to 6 moist or dry
Texture—extremely gravelly medial loam, very gravelly medial loam, or gravelly medial loam; very gravelly clay loam, extremely gravelly clay loam, very cobbly clay loam, or extremely cobbly clay loam below a depth of 40 inches in clayey phase
Content of clay—18 to 22 percent (apparent, by field estimates); 30 to 40 percent in clayey phase (apparent, by field estimates)
Content of rock fragments—15 to 70 percent gravel, 5 to 50 percent cobbles, and 0 to 10 percent stones

BC and C horizons, where present
Value—3 to 5 moist, 4 to 6 dry
Chroma—4 to 6 moist or dry
Texture—extremely cobbly medial loam, extremely gravelly medial loam, or extremely gravelly medial silt loam; extremely gravelly loam or extremely cobbly loam below a depth of 40 inches in till substratum phase
Content of clay—12 to 27 percent (apparent, by field estimates)
Content of rock fragments—30 to 70 percent gravel, 0 to 30 percent cobbles, and 0 to 10 percent stones

Chitwood Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Landform: Coastal fluviomarine terraces and coastal valley stream terraces

Parent material: Mixed alluvium and/or fluviomarine deposits derived from sedimentary rock
Slope range: 0 to 15 percent
Elevation: 20 to 300 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 300 days

Taxonomic classification: Fine, isotic, isomesic Aquandic Dystrudepts

Typical Pedon

Ap—0 to 7 inches; very dark grayish brown (10YR 3/2) medial silt loam, grayish brown (10YR 5/2) dry; weak very fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; many very fine roots throughout; many very fine irregular pores; strongly acid (pH 5.2); clear smooth boundary.
A—7 to 11 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine roots; many very fine and fine irregular pores; very strongly acid (pH 5.0); clear smooth boundary.
BA—11 to 19 inches; dark brown (10YR 3/3) silty clay loam, brown (10YR 5/3) dry; moderate medium subangular blocky structure parting to moderate very fine angular blocky; moderately hard, firm, moderately sticky and moderately plastic; common fine roots; many very fine tubular pores; few faint continuous very dark grayish brown (10YR 3/2) organic stains on faces of peds; few fine faint irregular dark yellowish brown (10YR 4/4) and few fine distinct irregular yellowish brown (10YR 5/6) iron masses in matrix; very strongly acid (pH 5.0); clear smooth boundary.
Bw—19 to 29 inches; dark yellowish brown (10YR 3/4) silty clay, yellowish brown (10YR 5/4) dry; moderate medium subangular blocky structure parting to weak very fine angular blocky; moderately hard, firm, moderately sticky and moderately plastic; few fine roots; few fine and common very fine tubular pores; few fine distinct continuous very dark grayish brown (10YR 3/2) organic stains on faces of peds and along pores; many medium distinct irregular strong brown (7.5YR 5/6) iron masses and many medium distinct irregular grayish brown (10YR 5/2) iron depletions in matrix; very strongly acid (pH 5.0); clear smooth boundary.
BC—29 to 60 inches; dark yellowish brown (10YR 3/4) silty clay loam, yellowish brown (10YR 5/4) dry; weak medium subangular blocky structure; moderately hard, firm, moderately sticky and moderately plastic; few fine roots; common very fine tubular pores; common distinct continuous very dark grayish brown (10YR 3/2) organic stains on faces of peds and along pores; common coarse and medium prominent irregular strong brown (7.5YR 5/8) and yellowish red (5YR 5/6) iron masses and common coarse and medium distinct irregular grayish brown (10YR 5/2) iron depletions in matrix; very strongly acid (pH 4.6).

Typical Pedon Location

Map unit in which located: Chitwood-Hebo complex, 0 to 5 percent slopes
Location in survey area: In an area of pastureland about 3.8 miles southeast of Tillamook, Oregon; about 1,500 feet south and 1,000 feet east of the northwest corner of section 10, T. 2 S., R. 9 W.

Range in Characteristics

Profile
Depth to bedrock—more than 60 inches
Thickness of umbric epipedon—10 to 20 inches

Depth to iron depletions with chroma of 2 or less when moist—18 to 24 inches
Depth to matrix chroma of 2 or less when moist—more than 20 inches, where present
Content of clay in the particle-size control section—35 to 45 percent
Content of pararock fragments in the particle-size control section—0 to 10 percent paragravel
Hue—10YR

Ap horizon
Value—2 or 3 moist, 3 to 5 dry
Chroma—2 or 3 moist or dry
Texture—medial silt loam
Content of clay—20 to 27 percent clay (apparent, by field estimates)
Reaction—extremely acid to moderately acid
Consistence—weakly smeary or moderately smeary

A horizon
Value—2 or 3 moist, 3 to 5 dry
Chroma—2 or 3 moist or dry
Texture—silt loam or medial silt loam
Content of clay—20 to 27 percent clay (apparent, by field estimates)
Reaction—extremely acid to moderately acid

BA horizon, where present
Value—3 moist, 3 to 5 dry
Chroma—3 moist or dry
Texture—silty clay loam
Content of clay—30 to 37 percent clay
Reaction—extremely acid to strongly acid

Bw horizon
Value—3 to 6 moist, 4 to 7 dry
Chroma—2 to 4 moist or dry
Texture—silty clay or silty clay loam
Content of clay—35 to 45 percent
Reaction—extremely acid to strongly acid

BC and C horizons, where present
Hue—10YR or 2.5Y
Value—3 to 6 moist, 4 to 7 dry
Chroma—1 to 4 moist, 2 to 4 dry
Texture—silty clay loam or silty clay
Clay content—35 to 45 percent
Content of pararock fragments—0 to 10 percent paragravel
Reaction—extremely acid to moderately acid

Condorbridge Series

Depth class: Very deep
Drainage class: Well drained
Landform: Alluvial fans in coastal valleys
Parent material: Alluvium and/or debris flow deposits derived from igneous and sedimentary rock
Slope range: 0 to 15 percent
Elevation: 20 to 200 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 120 to 260 days

Taxonomic classification: Fine-loamy, isotic, isomesic Andic Dystrudepts

Typical Pedon

Ap—0 to 5 inches; very dark grayish brown (10YR 3/2) gravelly medial loam, brown (10YR 5/3) dry; moderate very fine and fine subangular blocky structure; firm, nonsticky and nonplastic; weakly smeary; common very fine, fine, and medium roots throughout; 20 percent gravel and 5 percent paragravel; strongly acid (pH 5.4); abrupt smooth boundary.

A—5 to 12 inches; dark brown (10YR 3/3) gravelly medial loam, yellowish brown (10YR 5/4) dry; weak medium subangular blocky structure parting to moderate coarse granular; firm, slightly sticky and slightly plastic; weakly smeary; common very fine and fine roots throughout; 20 percent gravel and 10 percent paragravel; strongly acid (pH 5.4); clear smooth boundary.

BA—12 to 26 inches; dark brown (10YR 3/3) gravelly loam, pale brown (10YR 6/3) dry; weak medium subangular blocky structure; friable, slightly sticky and slightly plastic; few very fine and fine roots throughout; 25 percent gravel and 10 percent paragravel; moderately acid (pH 5.6); clear smooth boundary.

Bw1—26 to 35 inches; dark brown (10YR 3/3) paragravelly clay loam, yellowish brown (10YR 5/4) dry; moderate medium subangular blocky structure; friable, slightly sticky and slightly plastic; very few very fine roots throughout; 10 percent gravel and 10 percent paragravel; moderately acid (pH 5.6); clear smooth boundary.

Bw2—35 to 53 inches; dark yellowish brown (10YR 3/4) paragravelly clay loam, yellowish brown (10YR 5/4) dry; moderate coarse subangular blocky structure; friable, slightly sticky and slightly plastic; very few very fine roots throughout; 10 percent gravel and 20 percent paragravel; strongly acid (pH 5.4); clear smooth boundary.

Bw3—53 to 60 inches; dark yellowish brown (10YR 3/4) paragravelly clay loam, brownish yellow (10YR 6/6) dry; moderate coarse subangular blocky structure; friable, slightly sticky and slightly plastic; 10 percent gravel and 10 percent paragravel; moderately acid (pH 5.6).

Typical Pedon Location

Map unit in which located: Condorbridge gravelly medial loam, 3 to 15 percent slopes (fig. 110)

Location in survey area: In an area of pastureland about 900 feet east and 300 feet south of the northwest corner of section 12, T. 4 S., R. 10 W.

Range in Characteristics

Profile

Depth to bedrock—more than 60 inches
Thickness of umbric epipedon—10 to 20 inches
Content of clay in the particle-size control section—20 to 35 percent
Content of rock and pararock fragments in the particle-size control section—0 to 35 percent gravel, 0 to 10 percent cobbles, 0 to 35 percent paragravel, and 0 to 10 percent paracobbles, averaging less than 35 percent total
Hue—10YR or 7.5YR
Reaction—strongly acid or moderately acid

Ap horizon

Value—2 or 3 moist, 4 or 5 dry
Chroma—2 or 3 moist or dry
Texture—gravelly medial loam
Content of clay—20 to 25 percent (apparent, by field estimates)

Figure 110.—Typical profile of Condorbridge gravelly medial loam, 3 to 15 percent slopes.

Content of rock and pararock fragments—15 to 30 percent gravel and 0 to 10 percent paragravel
Consistence—weakly smeary or moderately smeary

A horizon
Value—2 or 3 moist, 4 or 5 dry
Chroma—2 or 3 moist or dry
Texture—gravelly medial loam, paragravelly medial silt loam, medial loam, medial silt loam, gravelly loam, paragravelly silt loam, loam, or silt loam
Content of clay—20 to 25 percent (apparent, by field estimates)
Content of rock and pararock fragments—0 to 30 percent gravel and 0 to 30 percent paragravel
Consistence—weakly smeary or moderately smeary

BA horizon
Value—3 or 4 moist, 5 or 6 dry
Chroma—3 or 4 moist, 3 to 6 dry
Texture—gravelly loam, paragravelly silt loam, loam, or silt loam
Content of clay—20 to 25 percent
Content of rock and pararock fragments—0 to 30 percent gravel and 0 to 30 percent paragravel

Bw horizon
Value—3 or 4 moist, 5 or 6 dry
Chroma—3 or 4 moist, 4 to 6 dry
Texture—paragravelly clay loam, gravelly clay loam, gravelly loam, clay loam, or silty clay loam
Content of clay—20 to 35 percent
Content of rock and pararock fragments—0 to 35 percent gravel, 0 to 10 percent cobbles, 0 to 35 percent paragravel, and 0 to 10 percent paracobbles

C horizon, where present
Value—3 or 4 moist, 5 or 6 dry
Chroma—3 or 4 moist, 4 to 6 dry
Texture—paragravelly clay loam, very paragravelly loam, gravelly clay loam, gravelly sandy loam, clay loam, or silty clay loam
Content of clay—10 to 35 percent
Content of rock and pararock fragments—0 to 35 percent gravel, 0 to 10 percent cobbles, 0 to 50 percent paragravel, and 0 to 10 percent paracobbles

Coquille Series

Depth class: Very deep
Drainage class: Very poorly drained
Landform: Tidal marshes and estuaries
Parent material: Estuarine deposits
Slope range: 0 to 1 percent
Elevation: 10 to 20 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 180 to 300 days

Taxonomic classification: Fine-silty, mixed, superactive, nonacid, isomesic Fluvaquentic Endoaquepts

Typical Pedon

Ap—0 to 6 inches; dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; moderate fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine roots; many very fine tubular pores; many fine and medium faint dark brown (7.5YR 3/4 and 4/4) iron masses on peds and in pores; many faint dark grayish brown (10YR 4/2) iron depletions on peds; very strongly acid (pH 4.6); clear smooth boundary.

C1—6 to 14 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; weak medium and coarse subangular blocky structure; hard, firm, slightly sticky and slightly plastic; many very fine roots; many very fine and fine and few medium tubular pores; common fine and medium distinct dark brown (7.5YR 3/4) and common prominent strong brown (7.5YR 4/6) iron masses on peds and in pores; common fine and medium prominent dark reddish brown (5YR 3/4) weakly

cemented iron concentrations in pores and lining pores; moderately acid (pH 5.6); clear smooth boundary.

C2—14 to 34 inches; dark grayish brown (10YR 4/2) silty clay loam, grayish brown (10YR 5/2) dry; weak coarse subangular blocky structure; moderately hard, firm, slightly sticky and slightly plastic; common very fine roots; many very fine, common fine, and few medium tubular pores; common fine and medium distinct dark brown (7.5YR 3/4) iron masses on peds and in pores; common fine and medium prominent dark reddish brown (5YR 3/4) weakly cemented iron concentrations in pores and lining pores; moderately acid (pH 5.6); clear smooth boundary.

2Cg1—34 to 49 inches; greenish black (10Y 2.5/1) silty clay loam, grayish brown (2.5Y 5/2) dry; massive; hard, firm, moderately sticky and slightly plastic; few very fine roots; common very fine and few fine and medium tubular pores; few fine and medium prominent dark reddish brown iron masses on peds and in pores; few fine and medium prominent dark reddish brown (5YR 3/4) weakly cemented iron concentrations in pores and lining pores; moderately acid (pH 5.6); clear smooth boundary.

2Cg2—49 to 60 inches; greenish black (10Y 2.5/1) silty clay loam, grayish brown (5Y 5/1) dry; massive; hard, firm, moderately sticky and slightly plastic; few very fine roots; common very fine and few fine and medium tubular pores; 10 percent moderately decomposed herbaceous fibers; neutral (pH 6.8).

Typical Pedon Location

Map unit in which located: Coquille silt loam, 0 to 1 percent slopes, diked

Location in survey area: In an area of pastureland about 1 mile southwest of Tillamook, Oregon; about 2,200 feet west and 2,450 feet north of the southeast corner of section 35, T. 1 S., R. 10 W.

Range in Characteristics

Profile

Depth to bedrock—more than 60 inches

Other feature—thin lenses of organic material in some pedons

A and Ap horizons, where present

Hue—2.5Y or 10YR

Value—3 or 4 moist, 5 or 6 dry

Chroma—1 to 3 moist or dry

Texture—silt loam

Content of clay—20 to 27 percent

Reaction: Natural phase—moderately acid to neutral; diked phase—extremely acid or very strongly acid; protected phase—extremely acid or very strongly acid

Redoximorphic features—faint to prominent

C and Cg horizons, where present

Hue—10YR to 5Y

Value—4 moist, 5 to 7 dry

Chroma—2 moist or dry

Texture—silt loam or silty clay loam

Content of clay—20 to 35 percent

Redoximorphic features—distinct or prominent

Reaction: Natural phase—moderately acid to neutral; diked phase—moderately acid to neutral; protected phase—very strongly acid to neutral

2C and 2Cg horizons, where present

Hue—2.5Y to 5BG

Value—2.5 to 4 moist, 5 to 7 dry

Chroma—1 or less moist and 2 or less dry

Texture—silty clay loam, silt loam, or silty clay
Content of clay—25 to 55 percent
Reaction: Natural phase—moderately acid to neutral; diked phase—moderately acid to neutral; protected phase—very strongly acid to neutral
Other feature—0 to 20 percent herbaceous fibers

Croquib Series

Depth class: Very deep
Drainage class: Poorly drained
Landform: Stream terraces
Parent material: Mixed alluvium over weakly consolidated to strongly consolidated alluvium derived from igneous and sedimentary rock
Slope range: 0 to 3 percent
Elevation: 20 to 300 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Taxonomic classification: Medial over loamy-skeletal, ferrihydritic over isotic, acid, isomesic Alic Epiaquands

Typical Pedon

Ap1—0 to 2 inches; black (10YR 2/1) medial silt loam, dark gray (10YR 4/1) dry; moderate very fine granular and subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; many very fine roots; many very fine irregular pores; few fine prominent yellowish brown (10YR 5/8) iron-manganese masses; very strongly acid (pH 5.0); clear smooth boundary.
Ap2—2 to 6 inches; very dark gray (10YR 3/1) medial silt loam, dark gray (10YR 4/1) dry; weak medium subangular blocky structure parting to moderate fine subangular blocky; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; many very fine roots; many very fine tubular pores; common fine and medium prominent yellowish brown (10YR 5/8) iron-manganese masses; extremely acid (pH 4.4); abrupt smooth boundary.
Bw1—6 to 13 inches; dark gray (10YR 4/1) medial silty clay loam, gray (10YR 5/1) dry; moderate medium prismatic structure; hard, firm, sticky and plastic; weakly smeary; common very fine roots; many very fine tubular pores; many medium prominent reddish yellow (7.5YR 6/8) iron-manganese masses and many medium faint light brownish gray (10YR 6/2) iron depletions; extremely acid (pH 4.4); clear smooth boundary.
Bw2—13 to 24 inches; light brownish gray (10YR 6/2) medial silty clay loam, light gray (10YR 7/2) dry; weak coarse prismatic structure parting to moderate medium angular blocky; hard, firm, sticky and plastic; weakly smeary; few very fine roots; common very fine tubular pores; many fine prominent strong brown (7.5YR 5/8) iron-manganese masses and common fine faint dark grayish brown (10YR 4/2) iron depletions; extremely acid (pH 4.4); gradual smooth boundary.
Bw3—24 to 34 inches; light brownish gray (10YR 6/2) medial silty clay loam, light gray (10YR 7/2) dry; weak medium subangular blocky structure parting to moderate fine subangular blocky; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; few very fine roots; common very fine tubular pores; many fine and medium prominent strong brown (7.5YR 5/8) iron-manganese masses and few fine faint dark grayish brown (10YR 4/2) iron depletions; extremely acid (pH 4.4); clear wavy boundary.

2C—34 to 60 inches; light brownish gray (10YR 6/2) extremely gravelly loam, light gray (10YR 7/2) dry; strongly consolidated; very hard, very firm; many fine and medium prominent strong brown (7.5YR 5/8) iron-manganese masses; massive; 60 percent gravel and 10 percent cobbles; very strongly acid (pH 5.0).

Typical Pedon Location

Map unit in which located: Croquib silt loam, 0 to 3 percent slopes; Clatsop County, Oregon

Location: In an area of pastureland about 6 miles south of Astoria, Oregon; about 300 feet east of house and 25 feet south of road; about 1,000 feet south and 1,600 west of the northeast corner of section 18, T. 7 N., R. 9 W.

Range in Characteristics

Profile
Depth to bedrock—more than 60 inches
Depth to strongly contrasting textural stratification—25 to 40 inches
Reaction (solum)—extremely acid or very strongly acid

A and Ap horizons, where present
Hue—10YR
Value—2 or 3 moist, 3 or 4 dry
Chroma—1 or 2 moist or dry
Texture—medial silt loam
Content of clay—15 to 25 percent (apparent, by field estimates)
Redoximorphic features—prominent throughout
Consistence—weakly smeary or moderately smeary

Bw horizon
Hue—10YR or 2.5Y
Value—4 to 6 moist, 5 to 7 dry
Chroma—1 or 2 moist or dry
Texture—medial silty clay loam
Content of clay—27 to 35 percent (apparent, by field estimates)
Redoximorphic features—prominent to faint
Consistence—weakly smeary or moderately smeary

2C horizon
Hue—10YR or 2.5Y
Value—6 or 7 moist, 7 or 8 dry
Chroma—2 moist or dry
Texture—extremely gravelly loam
Content of clay—15 to 25 percent
Content of rock fragments—40 to 65 percent gravel and 5 to 15 percent cobbles
Redoximorphic features—prominent throughout
Reaction—very strongly acid or strongly acid
Other feature—weakly consolidated to strongly consolidated

Depoe Series

Depth class: Shallow to an iron-cemented layer (ortstein)
Drainage class: Poorly drained
Landform: Marine terraces
Parent material: Loamy eolian deposits over stratified sandy marine deposits
Slope range: 0 to 3 percent
Elevation: 50 to 300 feet
Mean annual precipitation: 80 to 100 inches

Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 180 to 300 days

Taxonomic classification: Loamy, isotic, isomesic, ortstein, shallow Typic Duraquods

Typical Pedon

Oi—0 to 3 inches; slightly decomposed plant material; abrupt smooth boundary.
E1—3 to 7 inches; very dark gray (10YR 3/1) loam, gray (10YR 6/1) dry; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; common very fine tubular pores; very strongly acid (pH 4.6); clear smooth boundary.
E2—7 to 17 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 6/1) dry; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; common very fine and fine roots; common very fine tubular pores; very strongly acid (pH 4.6); clear smooth boundary.
2Bsm—17 to 31 inches; strongly cemented sand with banded colors including strong brown (7.5YR 4/6), banded colors including strong brown (7.5YR 5/6) dry; massive; extremely hard, slightly rigid, nonsticky and nonplastic; very strongly acid (pH 5.0); clear wavy boundary.
2C—31 to 60 inches; yellowish brown (10YR 5/6) sand, very pale brown (10YR 7/4) dry; single grain; nonsticky and nonplastic; strongly acid (pH 5.2).

Typical Pedon Location

Map unit in which located: Depoe loam, 0 to 3 percent slopes
Location in survey area: In an area of forestland about 1.5 miles northwest of the town of Sandlake, Oregon; about 2,200 feet north and 1,700 feet west of the southeast corner of section 7, T. 2 S., R. 10 W.

Range in Characteristics

Profile
Depth to bedrock—more than 60 inches
Depth to iron-cemented layer (ortstein)—12 to 20 inches
Content of clay in the particle-size control section—15 to 27 percent
Content of rock fragments in the particle-size control section—0 to 5 percent
Reaction—very strongly acid or strongly acid

A horizon, where present
Hue—10YR
Value—2 to 4 moist, 5 or 6 dry
Chroma—1 to 3 moist or dry
Texture—loam
Content of clay—15 to 25 percent

E horizon
Hue—10YR
Value—3 to 5 moist, 6 to 8 dry
Chroma—1 or 2 moist or dry
Texture of E1 horizon—loam
Texture of E2 horizon—silt loam, loam, or sandy loam
Content of clay—10 to 20 percent
Content of rock fragments—0 to 5 percent gravel

2Bsm and 2BCsm horizons, where present
Hue—variegated 10YR to 2.5YR
Value—variegated 3 to 7
Chroma—variegated 3 to 8

Texture—sand or loamy sand
Other feature—moderate to strong cementation in iron-cemented layer (ortstein)

2C horizon
Hue—variegated 10YR to 7.5YR
Value—variegated 3 to 7 moist, variegated 5 to 8 dry
Chroma—variegated 1 to 8 moist or dry
Texture—sand or loamy sand; weakly stratified in some areas; intermittent lenses cemented with iron and/or aluminum
Content of clay—1 to 5 percent
Content of rock fragments—0 to 5 percent gravel

Dystrudepts

Depth class: Very deep to moderately deep
Drainage class: Well drained and moderately well drained
Landform: Narrow valley stream terraces and terrace escarpments
Parent material: Alluvium derived from igneous and/or sedimentary rock
Slope range: 0 to 60 percent
Elevation: 0 to 1,900 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 120 to 260 days

Taxonomic classification: Isomesic and mesic Dystrudepts

Reference Pedon

Oi—0 to 1 inch; partially decomposed plant material; abrupt smooth boundary.
A1—1 to 6 inches; very dark grayish brown (10YR 3/2) silty clay loam, dark brown (10YR 3/3) dry; moderate fine subangular blocky structure; moderately hard, firm, moderately sticky and moderately plastic; many very fine and fine roots; many very fine tubular and irregular pores; extremely acid (pH 4.4); clear smooth boundary.
A2—6 to 22 inches; dark brown (10YR 3/3) silty clay loam, brown (10YR 4/3) dry; moderate fine subangular blocky structure; hard, firm, moderately sticky and moderately plastic; common fine, medium, and coarse roots; common fine tubular and irregular pores; very strongly acid (pH 4.6); clear smooth boundary.
Bw1—22 to 31 inches; brown (7.5YR 4/4) silty clay loam, yellowish brown (10YR 5/4) dry; moderate fine and medium subangular blocky structure; very hard, firm, moderately sticky and moderately plastic; few very fine and fine roots; common very fine tubular pores; 15 percent fine distinct brown (10YR 4/3) organic coatings on peds; 10 percent fine distinct strong brown (7.5YR 5/8) iron masses on peds and in pores; 5 percent fine distinct dark grayish brown and grayish brown (10YR 4/2 and 5/2) iron depletions on peds; extremely acid (pH 4.4); abrupt wavy boundary.
Bw2—31 to 39 inches; light brownish gray (10YR 6/2) clay, light gray (10YR 7/1) dry; moderate fine and medium subangular blocky structure; very hard, very firm, very sticky and very plastic; few very fine roots; few very fine tubular pores; 10 percent fine prominent strong brown (7.5YR 5/8) iron masses on peds and in pores; extremely acid (pH 4.4); clear smooth boundary.
Bw3—39 to 49 inches; light brownish gray (2.5Y 6/2) clay, light gray (10YR 7/1) dry; weak medium prismatic structure parting to moderate medium angular blocky; very hard, very firm, very sticky and very plastic; few very fine tubular pores; 15 percent

fine prominent strong brown (7.5YR 5/8) iron masses on peds and in pores; extremely acid (pH 4.4); gradual smooth boundary.
BC—49 to 61 inches; pale brown (10YR 6/3) silty clay loam, light gray (10YR 7/2) dry; weak medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few very fine tubular pores; 25 percent fine prominent strong brown (7.5YR 5/8) iron masses on peds and in pores; very strongly acid (pH 4.6).

Reference Pedon Location

Map unit in which located: Dystrudepts-Aquepts complex, 0 to 7 percent slopes
Location in survey area: In an area of forestland about 3.1 miles south of Dolph, Oregon; about 2,100 feet west and 250 feet north of the southeast corner of section 9, T. 6 S., R. 9 W.

Range in Characteristics

Profile
Depth to bedrock—typically more than 60 inches, but 20 to 40 inches in areas associated with terrace escarpments
Thickness of umbric epipedon—10 to 25 inches
Depth to strongly contrasting textural stratification, where present—40 to 63 inches
Depth to redoximorphic features, where present—15 inches or more
Depth to low-chroma matrix of 2 or less—24 inches or more
Reaction—extremely acid to moderately acid
Hue—10YR or 7.5YR

A horizon
Value—2 or 3 moist, 3 to 5 dry
Chroma—2 or 3 moist or dry
Texture—silt loam, medial silt loam, or silty clay loam
Content of clay—15 to 35 percent
Content of rock and pararock fragments—0 to 10 percent gravel, 0 to 10 percent cobbles, and 0 to 10 percent paragravel

Bw horizon
Value—4 or 6 moist, 5 to 7 dry
Chroma—2 to 6 moist, 1 to 6 dry
Texture—silty clay loam, silty clay, clay, loam, silt loam, or very gravelly loam
Content of clay—15 to 55 percent
Content of rock and pararock fragments—0 to 50 percent gravel, 0 to 10 percent cobbles, and 0 to 10 percent paragravel

BC, C, and 2C horizons, where present
Value—3 to 6 moist, 5 to 7 dry
Chroma—3 to 6 moist, 2 to 6 dry
Texture—silty clay loam, loam, fine sandy loam, very gravelly loam, extremely gravelly loamy sand, or extremely cobbly sandy loam
Content of clay—5 to 40 percent
Content of rock and pararock fragments—0 to 50 percent gravel, 0 to 35 percent cobbles, and 0 to 10 percent paragravel

Ecola Series

Depth class: Moderately deep
Drainage class: Well drained
Landform: Hills and mountains

Parent material: Colluvium derived from sedimentary rock
Slope range: 30 to 90 percent
Elevation: 50 to 1,800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F.
Frost-free period: 120 to 210 days

Taxonomic classification: Fine-silty, isotic, isomesic Andic Dystrudepts

Typical Pedon

Oi—0 to 3 inches; slightly decomposed plant material; abrupt smooth boundary.
A—3 to 12 inches; very dark brown (10YR 2/2) medial silt loam, brown (10YR 4/3) dry; moderate very fine granular and subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; weakly smeary; many very fine and fine and common medium and coarse roots; few very fine irregular pores; 5 percent paragravel; very strongly acid (pH 4.8); clear wavy boundary.
AB—12 to 19 inches; dark brown (10YR 3/3) paragravelly silt loam, brown (10YR 5/3) dry; moderate very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots; few very fine irregular pores; 20 percent paragravel and 5 percent paracobbles; very strongly acid (pH 4.6); gradual wavy boundary.
Bw—19 to 36 inches; dark yellowish brown (10YR 4/6) very paragravelly silty clay loam, yellowish brown (10YR 5/6) dry; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common fine roots; few very fine irregular pores; 50 percent paragravel and 5 percent paracobbles; very strongly acid (pH 4.6); clear wavy boundary.
Cr—36 inches; highly fractured siltstone.

Typical Pedon Location

Map unit in which located: Templeton-Ecola medial silt loams, 30 to 60 percent slopes
Location in survey area: In an area of forestland about 1.5 miles northeast of the town of Sandlake, Oregon; about 800 feet east and 100 feet north of the southwest corner of section 10, T. 3 S., R. 10 W.

Range in Characteristics

Profile
Depth to bedrock—20 to 40 inches
Thickness of umbric epipedon—typically 14 to 20 inches, but 20 to 25 inches in some pedons
Hue—10YR or 7.5YR
Reaction—extremely acid to strongly acid

A horizon
Value—2 or 3 moist, 4 or 5 dry
Chroma—2 or 3 moist or dry
Texture—medial silt loam
Content of clay—18 to 25 percent (apparent, by field estimates)
Content of pararock fragments—0 to 15 percent paragravel and 0 to 5 percent paracobbles
Consistence—weakly smeary or moderately smeary

AB horizon
Value—3 moist, 4 or 5 dry
Chroma—3 or 4 moist or dry

Texture—paragravelly silt loam, silty clay loam, paragravelly silty clay loam, or medial silt loam
Content of clay—25 to 30 percent
Content of pararock fragments—0 to 30 percent paragravel and 0 to 5 percent paracobbles

Bw horizon
Value—3 or 4 moist, 4 or 5 dry
Chroma—4 to 6 moist or dry
Texture—very paragravelly silty clay loam, silt loam, silty clay loam, paragravelly silt loam, paragravelly silty clay loam, or very paragravelly silt loam
Content of clay—25 to 35 percent
Content of pararock fragments—0 to 60 percent paragravel and 0 to 15 percent paracobbles

Euchre Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Landform: Stream terraces
Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 0 to 7 percent
Elevation: 50 to 400 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Taxonomic classification: Medial over loamy, ferrihydritic over isotic, acid, isomesic Alic Endoaquands

Typical Pedon

Ap—0 to 8 inches; dark brown (7.5YR 3/2) medial silt loam, dark brown (10YR 3/3) dry; moderate fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; many very fine roots; many very fine irregular pores; 2 percent rounded basalt gravel; very strongly acid (pH 4.6); clear smooth boundary.
A—8 to 14 inches; dark brown (7.5YR 3/3) medial silt loam, brown (10YR 4/3) dry; moderate fine and very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; many very fine roots; many very fine irregular pores and common very fine tubular pores; 2 percent rounded basalt gravel; very strongly acid (pH 4.6); clear wavy boundary.
2Bw1—14 to 24 inches; dark grayish brown (10YR 4/2) silty clay loam, brown (10YR 5/3) dry; moderate medium subangular blocky structure; moderately hard, firm, moderately sticky and moderately plastic; common very fine roots; many very fine tubular pores; many fine prominent strong brown (7.5YR 4/6) irregular iron masses in matrix and on faces of peds; extremely acid (pH 4.2); clear smooth boundary.
2Bw2—24 to 39 inches; dark grayish brown (2.5Y 4/2) silty clay loam, grayish brown (2.5Y 5/2) dry; moderate medium and coarse subangular blocky structure; moderately hard, firm, moderately sticky and moderately plastic; few very fine roots; common very fine and fine tubular pores; many medium prominent strong brown (7.5YR 4/6) irregular iron masses in matrix and on faces of peds; 2 percent rounded basalt gravel; extremely acid (pH 4.2); clear smooth boundary.

2C—39 to 55 inches; variegated strong brown (7.5YR 4/6 and 5/8), stratified loam and fine sandy loam, yellowish brown (10YR 5/6 and 5/8) dry; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; common very fine tubular pores; common fine and very fine prominent dark grayish brown (2.5Y 4/2) irregular iron depletions in matrix; 5 percent rounded basalt gravel; very strongly acid (pH 4.6); clear wavy boundary.

3C—55 to 60 inches; variegated dark brown (7.5YR 3/4), strong brown (7.5YR 4/6), and dark grayish brown (10YR 4/2) extremely gravelly sandy loam, strong brown (7.5YR 5/6 and 5/8) and light brownish gray (10YR 6/2) dry; massive; moderately hard, firm, nonsticky and nonplastic; intermittent very weakly cemented lenses; 55 percent rounded gravel and 10 percent rounded cobbles; extremely acid (pH 4.2).

Typical Pedon Location

Map unit in which located: Siletz-Euchre medial silt loams, 0 to 7 percent slopes

Location in survey area: In an area of pastureland about 5 miles southeast of Tillamook, Oregon; about 2,500 feet north and 300 feet west of the southeast corner of section 29, T. 2 S., R. 9 W.

Range in Characteristics

Profile

Depth to bedrock—more than 60 inches

Thickness of umbric epipedon—14 to 20 inches

Depth to strongly contrasting textural stratification—36 to 60 inches

Content of clay in the particle-size control section—12 to 25 percent (apparent, by field estimates) in medial part; 27 to 35 percent in loamy part

Content of rock fragments in the particle-size control section—0 to 15 percent

Depth to redoximorphic features and/or matrix chroma of 2 or less—10 to 20 inches

Ap and A horizons

Hue—7.5YR or 10YR

Value—2 or 3 moist, 3 to 5 dry

Chroma—1 to 3 moist or dry

Texture—medial silt loam

Content of clay—12 to 25 percent (apparent, by field estimates)

Content of rock fragments—0 to 15 percent gravel

Reaction—extremely acid to moderately acid

Consistence—weakly smeary or moderately smeary

2Bw horizon

Hue—10YR or 2.5Y

Value—4 or 5 moist, 5 or 6 dry

Chroma—4 to 6 moist or dry

Texture—silty clay loam or clay loam

Content of clay—27 to 35 percent

Content of rock fragments—0 to 15 percent gravel

Reaction—extremely acid to strongly acid

2C horizon

Hue—7.5YR or 10YR

Value—4 or 5 moist, 4 to 7 dry

Chroma—3 to 8 moist or dry

Texture—stratified loam to fine sandy loam, fine sandy loam, or clay loam

Content of clay—10 to 35 percent

Content of rock fragments—0 to 15 percent gravel

Reaction—extremely acid to strongly acid

3C horizon, where present
Hue—7.5YR or 10YR
Value—3 to 5 moist, 4 to 7 dry
Chroma—2 to 6 moist or dry
Texture—sandy loam, loamy sand, or gravelly loamy sand; very gravelly sandy loam or extremely gravelly sandy loam below a depth of 40 inches in some pedons
Content of clay—3 to 10 percent
Content of rock fragments—0 to 55 percent gravel and 0 to 10 percent cobbles
Reaction—extremely acid to strongly acid
Cementation—none or intermittent, very weakly cemented or weakly cemented lenses in some pedons

Fawceter Series

Depth class: Deep
Drainage class: Well drained
Landform: Mountains
Parent material: Colluvium derived from igneous rock
Slope range: 5 to 90 percent
Elevation: 1,600 to 3,000 feet
Mean annual precipitation: 110 to 120 inches
Mean annual air temperature: 42 to 46 degrees F
Frost-free period: 90 to 120 days

Taxonomic classification: Medial-skeletal, ferrihydritic, isofrigid Pachic Fulvudands

Typical Pedon

Oi—0 to 1 inch; slightly decomposed plant material; abrupt smooth boundary.
A1—1 to 11 inches; very dark brown (10YR 2/2) gravelly medial silt loam, very dark brown (10YR 2/2) dry; weak very fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; strongly smeary; many very fine and fine and common medium and coarse roots; many very fine and few fine irregular pores; 20 percent gravel and 10 percent cobbles; strongly acid (pH 5.2); clear smooth boundary.
A2—11 to 29 inches; very dark brown (10YR 2/2) very cobbly medial silt loam, very dark grayish brown (10YR 3/2) dry; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; moderately smeary; many very fine and common fine, medium, and coarse roots; many very fine and few fine irregular pores; 25 percent gravel and 15 percent cobbles; very strongly acid (pH 4.8); gradual smooth boundary.
Bw1—29 to 41 inches; dark brown (10YR 3/3) very cobbly medial loam, dark brown (10YR 3/3) dry; weak very fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; moderately smeary; common very fine and fine and few medium roots; common very fine irregular pores and few fine tubular pores; 30 percent gravel and 15 percent cobbles; very strongly acid (pH 5.0); clear smooth boundary.
Bw2—41 to 57 inches; dark yellowish brown (10YR 3/4) extremely gravelly medial loam, dark yellowish brown (10YR 4/4) dry; weak very fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; moderately smeary; common fine and medium roots; common very fine irregular pores; 45 percent gravel and 20 percent cobbles; very strongly acid (pH 5.0); abrupt wavy boundary.
R—57 inches; fractured, dark brown volcanic rock.

Typical Pedon Location

Map unit in which located: Fawceter-Killam-Mosscreek complex, 60 to 90 percent slopes

Location in survey area: In an area of forestland about 6 miles northeast of Tillamook, Oregon; about 50 feet north and 1,000 feet west of the southeast corner of section 35, T. 1 N., R. 9 W.

Range in Characteristics

Profile
Depth to bedrock—40 to 60 inches
Thickness of umbric epipedon—20 to 40 inches
Content of rock fragments in particle-size control section—35 to 70 percent
Hue—10YR or 7.5YR
Reaction—very strongly acid or strongly acid
Consistence—weakly smeary or moderately smeary throughout

A1 horizon
Value—2 or 3 moist, 2 to 4 dry
Chroma—2 or 3 moist, 2 to 4 dry
Texture—gravelly medial silt loam
Content of clay—15 to 20 percent (apparent, by field estimates)
Content of rock fragments—15 to 30 percent gravel and 0 to 10 percent cobbles

A2 horizon
Value—2 or 3 moist, 2 to 4 dry
Chroma—2 or 3 moist, 2 to 4 dry
Texture—very cobbly medial silt loam, very gravelly medial silt loam, or very cobbly medial loam
Content of clay—18 to 25 percent (apparent, by field estimates)
Content of rock fragments—20 to 55 percent gravel and 0 to 25 percent cobbles

Bw horizon
Value—3 or 4 moist, 3 to 5 dry
Chroma—3 or 4 moist, 3 to 6 dry
Texture—very cobbly medial loam, very gravelly medial loam, extremely gravelly medial loam, or extremely cobbly medial loam
Content of clay—18 to 27 percent (apparent, by field estimates)
Content of rock fragments—20 to 60 percent gravel, 0 to 50 percent cobbles, and 0 to 15 percent stones

Fendall Series

Depth class: Moderately deep
Drainage class: Well drained
Landform: Hills
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 5 to 35 percent
Elevation: 50 to 800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Taxonomic classification: Fine, isotic, isomesic Andic Dystrudepts

Typical Pedon

Ap—0 to 8 inches; very dark brown (10YR 2/2) medial silt loam, grayish brown (10YR 5/2) dry; moderate very fine and fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; many very fine roots throughout; 5 percent paragravel; very strongly acid (pH 5.0); clear smooth boundary.

A—8 to 13 inches; very dark grayish brown (10YR 3/2) silt loam, brown (10YR 5/3) dry; moderate very fine and fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; many very fine roots throughout; 5 percent paragravel; very strongly acid (pH 4.8); clear wavy boundary.

Bw1—13 to 17 inches; dark yellowish brown (10YR 3/4) silty clay loam, yellowish brown (10YR 5/4) dry; moderate fine subangular blocky structure; moderately hard, firm, moderately sticky and moderately plastic; common very fine roots throughout; 10 percent paragravel; very strongly acid (pH 4.8); clear wavy boundary.

Bw2—17 to 27 inches; dark yellowish brown (10YR 4/4) paragravelly silty clay loam, light yellowish brown (10YR 6/4) dry; moderate fine subangular blocky structure; moderately hard, firm, moderately sticky and moderately plastic; few very fine roots throughout; 20 percent paragravel; very strongly acid (pH 4.6); gradual wavy boundary.

BC—27 to 34 inches; strong brown (7.5YR 4/6) very paragravelly silty clay loam, strong brown (7.5YR 5/6) dry; weak very fine subangular blocky structure; moderately hard, firm, moderately sticky and moderately plastic; few very fine roots throughout; 50 percent paragravel; very strongly acid (pH 4.6); clear wavy boundary.

2Cr—34 inches; strongly fractured siltstone.

Typical Pedon Location

Map unit in which located: Winema-Fendall medial silt loams, 5 to 30 percent slopes

Location in survey area: In an area of pastureland about 2,200 feet west and 900 feet south of the northeast corner of section 8, T. 5 S., R. 10 W.

Range in Characteristics

Profile

Depth to bedrock—20 to 40 inches

Thickness of umbric epipedon—10 to 20 inches

Content of clay in the particle-size control section—35 to 50 percent

Content of rock and pararock fragments in the particle-size control section—0 to 10 percent rock fragments and 0 to 50 percent pararock fragments

Hue—10YR or 7.5YR

Reaction—very strongly acid throughout

Ap horizon

Value—2 or 3 moist, 3 to 5 dry

Chroma—1 to 3 moist or dry

Texture—medial silt loam

Content of clay—20 to 27 percent (apparent, by field estimates)

Content of rock and pararock fragments—0 to 10 percent gravel and 0 to 10 percent paragravel

Consistence—weakly smeary or moderately smeary

A horizon
Value—2 or 3 moist, 3 to 5 dry
Chroma—1 to 3 moist or dry
Texture—medial silt loam or silt loam
Content of clay—20 to 27 percent (apparent, by field estimates)
Content of rock and pararock fragments—0 to 10 percent gravel and 0 to 10 percent paragravel
Consistence—weakly smeary or moderately smeary

AB horizon, where present
Value—2 or 3 moist, 3 to 5 dry
Chroma—1 to 3 moist or dry
Texture—silt loam
Content of clay—20 to 27 percent (apparent, by field estimates)
Content of rock and pararock fragments—0 to 10 percent gravel and 0 to 15 percent paragravel
Consistence—weakly smeary or moderately smeary

Bw1 and Bw horizons, where present
Value—3 to 5 moist, 5 or 6 dry
Chroma—3 to 6 moist or dry
Texture—silty clay loam or paragravelly silty clay loam
Content of clay—30 to 40 percent
Content of rock and pararock fragments—0 to 10 percent gravel and 0 to 35 percent paragravel

Bw2 and BC horizons, where present
Value—4 or 5 moist, 5 or 6 dry
Chroma—3 to 6 moist or dry
Texture—silty clay, clay, paragravelly silty clay, paragravelly clay, paragravelly silty clay loam, very paragravelly silty clay loam, or very paragravelly clay
Content of clay—30 to 50 percent
Content of rock and pararock fragments—0 to 10 percent gravel and 0 to 50 percent paragravel

Ferrelo Series

Depth class: Very deep
Drainage class: Well drained
Landform: Marine terraces
Parent material: Eolian and/or marine deposits
Slope range: 3 to 60 percent
Elevation: 20 to 300 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 180 to 300 days

Taxonomic classification: Coarse-loamy, isotic, isomesic Humic Dystrudepts

Typical Pedon

Oi—0 to 1 inch; slightly decomposed plant material; abrupt smooth boundary.
A—1 to 19 inches; very dark brown (7.5YR 2.5/2) loam, brown (7.5YR 4/3) dry; weak very fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine, fine, medium, and coarse roots; few very fine irregular pores; 1 percent concretions 2 to 5 millimeters in size; very strongly acid (pH 4.8); abrupt smooth boundary.

Bw—19 to 37 inches; brown (7.5YR 4/4) loam, light brown (7.5YR 6/4) dry; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine, fine, medium, and coarse roots; few very fine irregular pores; 2 percent concretions 2 to 5 millimeters in size; strongly acid (pH 5.1); clear smooth boundary.

2C1—37 to 55 inches; very pale brown (10YR 7/4) loamy fine sand, very pale brown (10YR 8/4) dry; massive; slightly hard, friable, nonsticky and nonplastic; brittle, extremely weakly cemented; strongly acid (pH 5.2); clear smooth boundary.

2C2—55 to 89 inches; very pale brown (10YR 7/4) fine sand, very pale brown (10YR 8/4) dry; massive; moderately hard, firm, nonsticky and nonplastic; brittle, very weakly cemented; strongly acid (pH 5.2).

Typical Pedon Location

Map unit in which located: Horseprairie-Ferrelo complex, 3 to 20 percent slopes

Location in survey area: In an area of forestland about 1.5 miles northwest of the town of Sandlake, Oregon; about 1,300 feet south and 1,000 feet east of the northwest corner of section 18, T. 2 S., R. 10 W.

Range in Characteristics

Profile

Depth to bedrock—more than 60 inches
Thickness of umbric epipedon—10 to 20 inches
Content of clay in the particle-size control section—10 to 18 percent

A horizon

Hue—7.5YR
Value—2 or 3 moist, 4 or 5 dry
Chroma—2 or 3 moist or dry
Texture—loam
Clay content—10 to 18 percent
Reaction—very strongly acid to moderately acid

Bw horizon

Hue—7.5YR or 10YR
Value—3 or 4 moist, 5 or 6 dry
Chroma—4 to 6 moist or dry
Texture—loam or fine sandy loam
Content of clay—10 to 18 percent
Reaction—strongly acid or moderately acid

2C horizon

Hue—10YR or 2.5Y
Value—4 to 7 moist, 6 to 8 dry
Chroma—2 to 6 moist or dry
Texture—loamy fine sand or fine sand
Content of clay—2 to 10 percent
Reaction—strongly acid or moderately acid

Flowerpot Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Landform: Hills and mountains
Parent material: Colluvium and residuum derived from sedimentary rock

Slope range: 5 to 30 percent
Elevation: 50 to 1,800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Taxonomic classification: Fine, isotic, isomesic Aquandic Dystrudepts

Typical Pedon

Oi—0 to 1 inch; slightly decomposed plant material; abrupt smooth boundary.

A1—1 to 8 inches; very dark brown (10YR 2/2) medial silty clay loam, dark grayish brown (10YR 4/2) dry; strong medium subangular blocky structure; very hard, firm, moderately sticky and moderately plastic; weakly smeary; few very fine, fine, medium, and coarse roots throughout; many very fine and fine irregular pores; extremely acid (pH 4.2); clear smooth boundary.

A2—8 to 14 inches; very dark brown (10YR 2/2) silty clay loam, dark grayish brown (10YR 4/2) dry; strong medium subangular blocky structure parting to strong fine subangular blocky; very hard, firm, moderately sticky and moderately plastic; common medium and coarse and few very fine and fine roots throughout; many very fine and fine irregular pores; extremely acid (pH 4.2); clear smooth boundary.

AB—14 to 22 inches; very dark grayish brown (10YR 3/2) silty clay loam, dark grayish brown (10YR 4/2) dry; moderate fine subangular blocky structure; very hard, friable, moderately sticky and moderately plastic; few medium and very few very fine and fine roots throughout; many very fine and fine irregular pores; 2 percent paragravel; extremely acid (pH 4.2); diffuse smooth boundary.

Bw—22 to 30 inches; very dark grayish brown (10YR 3/2) silty clay loam, brown (10YR 5/3) dry; moderate medium subangular blocky structure; hard, friable, moderately sticky and moderately plastic; many very fine and fine irregular pores; few faint very dark brown (10YR 2/2) organic stains on surfaces along pores; common fine and medium prominent dark yellowish brown (10YR 4/6) irregular iron masses and common fine and medium faint dark grayish brown (2.5Y 4/2) irregular iron depletions in matrix; 2 percent paragravel; extremely acid (pH 4.4); diffuse smooth boundary.

Bg—30 to 52 inches; grayish brown (2.5Y 5/2) silty clay loam, pale yellow (2.5Y 7/4) dry; moderate medium subangular blocky structure; hard, friable, moderately sticky and moderately plastic; many very fine and fine irregular pores; common prominent very dark brown (10YR 2/2) organic stains on surfaces along pores; common medium and coarse prominent yellowish brown (10YR 5/6) irregular iron masses in matrix; 5 percent paragravel; extremely acid (pH 4.2); clear smooth boundary.

BC—52 to 60 inches; light yellowish brown (2.5Y 6/3) silty clay loam, light gray (2.5Y 7/1) dry; moderate medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; common very fine and fine irregular pores; common prominent very dark brown (10YR 2/2) organic stains on surfaces along pores; common medium and coarse prominent yellowish brown (10YR 5/8) irregular iron masses in matrix; 10 percent paragravel; extremely acid (pH 4.2).

Typical Pedon Location

Map unit in which located: Munsoncreek-Flowerpot complex 5 to 30 percent slopes
Location in survey area: In an area of forestland about 1,900 feet north and 125 feet west of the southeast corner of section 4, T. 2 S., R. 10 W.

Range in Characteristics

Profile
Depth to bedrock—more than 60 inches
Thickness of umbric epipedon—20 to 35 inches
Depth to depletions with chroma of 2 or less—15 to 24 inches
Depth to aquic conditions with soil matrix chroma of 2 or less—more than 20 inches
Reaction—extremely acid or very strongly acid

A1 horizon
Hue—10YR or 7.5YR
Value—2 or 3 moist, 3 or 4 dry
Chroma—2 or 3 moist or dry
Texture—medial silty clay loam
Content of clay—27 to 30 percent (apparent, by field estimates)
Consistence—weakly smeary or moderately smeary

A2 horizon
Hue—10YR or 7.5YR
Value—2 or 3 moist, 4 or 5 dry
Chroma—2 or 3 moist or dry
Texture—silty clay loam
Content of clay—30 to 40 percent

AB horizon
Hue—10YR or 7.5YR
Value—2 or 3 moist, 4 or 5 dry
Chroma—2 or 3 moist or dry
Texture—silty clay loam or paragravelly silty clay loam
Content of clay—35 to 40 percent
Content of pararock fragments—0 to 35 percent paragravel

Bw horizon
Hue—10YR or 7.5YR
Value—3 or 4 moist, 4 or 5 dry
Chroma—2 or 3 moist or dry
Texture—silty clay loam or paragravelly silty clay loam
Content of clay—35 to 40 percent
Content of pararock fragments—0 to 35 percent paragravel

Bg horizon
Hue—10YR or 2.5Y
Value—4 to 6 moist, 7 or 8 dry
Chroma—1 or 2 moist, 3 or 4 dry
Texture—silty clay loam, silty clay, or paragravelly silty clay loam
Content of clay—35 to 45 percent
Content of pararock fragments—0 to 35 percent paragravel

BC horizon
Hue—10YR or 2.5Y
Value—4 to 6 moist, 7 or 8 dry
Chroma—2 to 4 moist, 3 or 4 dry
Texture—silty clay loam, silty clay, paragravelly silty clay loam, or very paragravelly silty clay loam
Content of clay—27 to 45 percent
Content of pararock fragments—0 to 60 percent paragravel

Fluvaquents

Depth class: Very deep
Drainage class: Very poorly drained
Landform: Tidal marshes and coastal freshwater swamps
Parent material: Estuarine deposits
Slope range: 0 to 1 percent
Elevation: 0 to 10 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 180 to 300 days

Taxonomic classification: Isomesic Fluvaquents

Reference Pedon

A1—0 to 4 inches; very dark gray (5Y 3/1) mucky silt loam, grayish brown (2.5Y 5/2) dry; weak medium and fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine, fine, and medium roots; many very fine tubular pores; 15 percent moderately decomposed herbaceous fibers; neutral (pH 7.0); clear smooth boundary.

A2—4 to 7 inches; very dark gray (5Y 3/1) mucky silt loam, grayish brown (2.5Y 5/2) dry; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many fine and medium and common very fine roots; many very fine tubular pores; common fine and medium prominent dark brown (7.5YR 4/4) iron masses on peds and in pores; 15 percent moderately decomposed herbaceous fibers; neutral (pH 7.0); clear smooth boundary

Cg1—7 to 22 inches; very dark gray (N 3/0) silt loam, gray (5Y 5/1) dry; massive; slightly hard, friable, slightly sticky and slightly plastic; many fine and medium and common very fine roots; many very fine and fine and few medium tubular pores; 10 percent moderately decomposed herbaceous fibers; neutral (pH 6.6); clear smooth boundary.

Cg2—22 to 25 inches; black (N 2.5/0) sandy loam, dark gray (5Y 4/1) dry; massive; soft, very friable, nonsticky and nonplastic; many very fine irregular and tubular pores; neutral (pH 6.8); clear smooth boundary.

Cg3—25 to 45 inches; very dark gray (N 3/0) loam, gray (5Y 5/1) dry; massive; slightly hard, friable, slightly sticky and slightly plastic; common very fine and few fine and medium tubular pores; neutral (pH 7.0); clear smooth boundary.

Cg4—45 to 60 inches; black (10Y 2.5/0) very gravelly sandy loam, gray (5Y 5/1) dry; single grain; loose, nonsticky and nonplastic; common very fine and few fine and medium tubular pores; 50 percent rounded basalt gravel; neutral (pH 7.2).

Reference Pedon Location

Map unit in which located: Fluvaquents-Histosols complex, 0 to 1 percent slopes
Location in survey area: In an area of native high salt marsh vegetation about 0.8 mile southwest of Idaville, Oregon; about 2,100 feet north and 1,300 feet west of the southeast corner of section 11, T. 1 S., R. 10 W.

Range in Characteristics

Profile
Depth to bedrock—more than 60 inches
Depth to strongly contrasting textural stratification—30 to 60 inches
Other feature—thin lenses of organic material in some pedons

A horizon
Hue—10YR to 5Y
Value—2 to 4 moist, 5 or 6 dry
Chroma—1 or 2 moist, 2 or 3 dry
Texture—mucky silt loam or silt loam
Content of clay—20 to 27 percent
Redoximorphic features—faint to prominent
Reaction: Natural phase—moderately acid to neutral; diked phase—extremely acid to moderately acid
Other feature—0 to 20 percent herbaceous fibers

C and Cg horizons, where present
Hue—10YR to 5BG
Value—2 to 4 moist, 4 to 6 dry
Chroma—2 or less moist or dry
Texture—silt loam, mucky silt loam, silty clay loam, mucky silty clay loam, loam, or fine sandy loam; very gravelly sandy loam below a depth of 30 inches in some pedons
Content of clay—3 to 35 percent
Content of rock fragments—0 to 60 percent basalt gravel
Redoximorphic features—distinct or prominent concentrations in some pedons
Reaction—moderately acid to neutral
Other feature—0 to 20 percent herbaceous fibers

Fluventic Humic Dystrudepts

Depth class: Very deep
Drainage class: Moderately well drained
Landform: Flood plains
Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 0 to 5 percent
Elevation: 100 to 600 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Taxonomic classification: Isomesic Fluventic Humic Dystrudepts

Reference Pedon

Oi—0 to 1 inch; slightly decomposed plant material; abrupt smooth boundary.
A—1 to 11 inches; dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine roots; many very fine irregular and tubular pores; very strongly acid (pH 4.8); clear smooth boundary.
Bw1—11 to 35 inches; dark yellowish brown (10YR 3/4) silt loam, yellowish brown (10YR 5/4) dry; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine roots; common very fine tubular pores; strongly acid (pH 5.2); gradual smooth boundary.
Bw2—35 to 40 inches; dark yellowish brown (10YR 3/4) loam, yellowish brown (10YR 5/4) dry; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine roots; common very fine tubular pores; moderately acid (pH 5.8); abrupt smooth boundary.

2C—40 to 61 inches; mixed very dark grayish brown and dark brown (10YR 3/2 and 3/3) extremely cobbly loam, brown (10YR 4/3 and 5/3) dry; massive; soft, very friable, nonsticky and nonplastic; few very fine tubular pores; 25 percent subrounded basalt gravel and 40 percent subrounded basalt cobbles; moderately acid (pH 5.6).

Reference Pedon Location

Map unit in which located: Fluventic Humic Dystrudepts-Dystrudepts-Aquepts complex, 0 to 5 percent slopes
Location in survey area: In an area of native vegetation about 5.4 miles northeast of Rose Lodge, Oregon; about 1,800 feet east and 2,500 feet north of the southwest corner of section 15, T. 6 S., R. 9 W.

Range in Characteristics

Profile
Depth to bedrock—more than 60 inches
Thickness of umbric epipedon—10 to 20 inches
Content of clay in the particle-size control section—15 to 27 percent
Content of rock fragments in the particle-size control section—0 to 30 percent
Reaction—very strongly acid to moderately acid
Hue—10YR
Depth to strongly contrasting textural stratification—40 to 61 inches
Depth to redoximorphic features—more than 40 inches, where present

A horizon
Value—2 or 3 moist, 3 to 5 dry
Chroma—2 or 3 moist or dry
Texture—silt loam or loam
Content of clay—15 to 27 percent
Content of rock fragments—0 to 10 percent gravel and 0 to 10 percent cobbles, with 0 to 10 percent total

Bw horizon
Value—3 or 4 moist, 4 or 5 dry
Chroma—3 or 4 moist or dry
Texture—silt loam, very fine sandy loam, loam, fine sandy loam, gravelly loam, or cobbly loam
Content of clay—15 to 27 percent
Content of rock fragments—0 to 25 percent gravel and 0 to 25 percent cobbles, with 0 to 30 percent total

BC, C, and 2C horizons, where present
Value—3 to 5 moist, 4 to 6 dry
Chroma—2 to 4 moist, 3 or 4 dry
Texture—extremely cobbly loam, loam, fine sandy loam, sandy loam, or extremely gravelly sandy loam
Content of clay—2 to 25 percent
Content of rock fragments—0 to 65 percent gravel, 0 to 45 percent cobbles, and 0 to 10 percent stones, with 10 to 85 percent total

Gauldy Series

Depth class: Very deep
Drainage class: Somewhat excessively drained
Landform: Flood plains and in some areas, low stream terraces

Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 0 to 5 percent
Elevation: 10 to 400 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Taxonomic classification: Coarse-loamy over sandy or sandy-skeletal, mixed, superactive, isomesic Fluventic Humic Dystrudepts

Typical Pedon

Ap—0 to 10 inches; dark brown (10YR 3/3) loam, brown (10YR 5/3) dry; moderate medium and fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; many roots; many irregular pores; 10 percent rounded gravel; strongly acid (pH 5.2); clear smooth boundary.
Bw—10 to 26 inches; dark yellowish brown (10YR 3/4) gravelly loam, yellowish brown (10YR 5/4) dry; moderate very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many roots; many irregular pores and common coarse tubular pores; 15 percent rounded gravel; strongly acid (pH 5.4); abrupt wavy boundary.
2C1—26 to 38 inches; dark yellowish brown (10YR 3/4) extremely gravelly loamy coarse sand, yellowish brown (10YR 5/4) dry; single grain; loose, nonsticky and nonplastic; common coarse roots; many interstitial pores; 60 percent rounded gravel; strongly acid (pH 5.4); clear wavy boundary.
2C2—38 to 55 inches; dark yellowish brown (10YR 3/4) loamy fine sand, yellowish brown (10YR 5/4) dry; massive; soft, very friable, nonsticky and nonplastic; few coarse roots; many fine and medium tubular pores; 10 percent rounded gravel; strongly acid (pH 5.4); abrupt wavy boundary.
2C3—55 to 60 inches; dark grayish brown (10YR 4/2) extremely gravelly fine sand, grayish brown (10YR 5/2) dry; single grain; loose, nonsticky and nonplastic; 85 percent gravel; very strongly acid (pH 4.8).

Typical Pedon Location

Map unit in which located: Gauldy complex, 0 to 5 percent slopes
Location in survey area: In an area of pastureland about 2.3 miles northeast of Garibaldi, Oregon, along Moss Creek, on north side of road; about 1,650 feet north and 400 feet east of the southwest corner of section 13, T. 1 N., R. 10 W.

Range in Characteristics

Profile
Depth to bedrock—more than 60 inches
Thickness of umbric epipedon—10 to 17 inches
Depth to strongly contrasting textural stratification—commonly 20 to 30 inches, but less than 20 inches in a few areas
Reaction—very strongly acid or strongly acid

Ap and A horizons, where present
Value—2 or 3 moist, 3 to 5 dry
Chroma—2 or 3 moist or dry
Texture—loam
Content of clay—15 to 18 percent
Content of rock fragments—0 to 15 percent gravel

Bw and C horizons, where present
Value—3 or 4 moist, 5 or 6 dry
Chroma—4 to 6 moist or dry

Texture—loam, fine sandy loam, very fine sandy loam, or gravelly loam
Content of clay—10 to 15 percent
Content of rock fragments—5 to 20 percent gravel

2C horizon
Hue—10YR or 2.5Y
Value—3 to 5 moist, 5 or 6 dry
Chroma—2 to 4 moist or dry
Texture—extremely gravelly fine sand, extremely gravelly loamy coarse sand, extremely cobbly loamy fine sand, very gravelly loamy coarse sand, very cobbly fine sand, very cobbly loamy sand, loamy fine sand, loamy sand, or loamy coarse sand
Content of clay—0 to 10 percent
Content of rock fragments—10 to 85 percent gravel, 0 to 40 percent cobbles, and 0 to 10 percent stones
Other feature—stratified in some pedons

Ginger Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Landform: Stream terraces
Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 0 to 15 percent
Elevation: 20 to 200 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Taxonomic classification: Medial over clayey, ferrihydritic over isotic, nonacid, isomesic Typic Melanaquands

Typical Pedon

Ap—0 to 8 inches; black (10YR 2/1) medial silt loam, very dark gray (10YR 3/1) dry; strong fine, medium, and coarse granular structure; soft, very friable, nonsticky and slightly plastic; weakly smeary; many very fine roots; many very fine irregular pores; strongly acid (pH 5.4); clear smooth boundary.

A—8 to 17 inches; black (10YR 2/1) medial silt loam, very dark gray (10YR 3/1) dry; moderate fine subangular blocky structure parting to strong fine granular; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; many very fine roots; many very fine irregular and tubular pores; strongly acid (pH 5.4); clear smooth boundary.

2BA—17 to 20 inches; very dark grayish brown (10YR 3/2) silty clay loam, grayish brown (10YR 5/2) dry; moderate medium subangular blocky structure; moderately hard, firm, moderately sticky and moderately plastic; many roots; many very fine tubular pores; few fine faint grayish brown (10YR 5/2) irregular iron depletions and common fine prominent yellowish brown (10YR 5/6) irregular iron masses in matrix; few thin black (10YR 2/1) organic coatings on surfaces of peds; strongly acid (pH 5.2); clear smooth boundary.

2Bg1—20 to 28 inches; dark grayish brown (10YR 4/2) silty clay, light brownish gray (10YR 6/2) dry; moderate very fine angular blocky structure; moderately hard, firm, moderately sticky and moderately plastic; common very fine roots; few medium and very fine and common fine tubular pores; common fine faint light brownish gray (10YR 6/2) irregular iron depletions and common fine prominent yellowish brown (10YR 5/6) irregular iron masses in matrix; common thin dark brown (10YR

3/2) organic coatings on surfaces of peds and in old root channels; strongly acid (pH 5.2); gradual smooth boundary.

2Bg2—28 to 38 inches; grayish brown (10YR 5/2) silty clay, light brownish gray (10YR 6/2) dry; strong very fine and fine angular blocky structure; moderately hard, firm, moderately sticky and moderately plastic; few very fine roots; common fine and very fine tubular pores; many fine prominent strong brown (7.5YR 5/6) and yellowish red (5YR 5/6) irregular iron masses in matrix; many dark brown (10YR 3/2) organic coatings on surfaces of peds and in fine pores and old root channels; strongly acid (pH 5.2); gradual wavy boundary.

2Bg3—38 to 52 inches; grayish brown (2.5Y 5/2) silty clay, light gray (2.5Y 7/2) dry; moderate medium angular blocky structure parting to weak very fine angular blocky; moderately hard, firm, sticky and plastic; very few very fine roots; few medium, fine, and very fine tubular pores; 10 percent rounded paragravel; many fine prominent yellowish red (5YR 5/8) and strong brown (7.5YR 5/6) irregular iron masses in matrix; strongly acid (pH 5.2); abrupt wavy boundary.

3C—52 to 60 inches; variegated strong brown (7.5YR 4/6), dark brown (7.5YR 3/4), and dark grayish brown (10YR 4/2) extremely gravelly sandy loam, yellowish brown (7.5YR 5/6 and 5/8) and grayish brown (10YR 5/2) dry; massive; moderately hard, firm, nonsticky and nonplastic; intermittent weakly cemented lenses; 65 percent rounded gravel and 10 percent rounded cobbles; strongly acid (pH 5.2).

Typical Pedon Location

Map unit in which located: Tillamook-Ginger medial silt loams, 0 to 7 percent slopes

Location in survey area: In an area of pastureland about 0.4 mile south of junction of old State Highway 6 and Marolf Loop Road, west of fairgrounds in Tillamook, Oregon; about 2,500 feet west and 550 feet north of the southeast corner of section 29, T. 1 S., R. 9 W.

Range in Characteristics

Profile

Depth to bedrock—more than 60 inches
Thickness of umbric epipedon—12 to 20 inches
Depth to redoximorphic features and/or matrix chroma of 2 or less—12 to 20 inches
Depth to strongly contrasting textural stratification—40 to 60 inches
Reaction—very strongly acid to moderately acid

A horizon

Hue—10YR
Value—2 or 3 moist, 3 to 5 dry
Chroma—1 or 2 moist or dry
Texture—medial silt loam
Content of clay—18 to 25 percent (apparent, by field estimates)
Content of rock and pararock fragments—0 to 10 percent rounded gravel and 0 to 10 percent rounded paragravel
Consistence—weakly smeary or moderately smeary

2BA horizon

Hue—10YR
Value—3 moist, 4 or 5 dry
Chroma—2 moist or dry
Texture—silty clay loam
Content of clay—30 to 35 percent
Content of rock and pararock fragments—0 to 10 percent rounded gravel and 0 to 10 percent rounded paragravel

2Bw and 2Bg horizons, where present
Hue—10YR or 2.5Y
Value—4 or 5 moist, 5 or 7 dry
Chroma—2 moist or dry
Texture—silty clay loam or silty clay
Content of clay—35 to 50 percent clay
Content of rock and pararock fragments—0 to 10 percent rounded gravel and 0 to 10 percent rounded paragravel

3C horizon
Hue—7.5YR, 10YR, or 2.5Y
Value—3 to 5 moist, 4 to 7 dry
Chroma—2 to 8 moist or dry
Texture—extremely gravelly sandy loam, extremely gravelly loamy sand, sandy loam, or loamy sand
Content of clay—3 to 15 percent
Content of rock fragments—0 to 65 percent rounded gravel and 0 to 10 percent rounded cobbles
Cementation—intermittent, very weakly cemented or weakly cemented lenses throughout

Ginsberg Series

Depth class: Very deep
Drainage class: Well drained
Landform: Mountains
Parent material: Colluvium and residuum derived from tuffaceous sedimentary rock
Slope range: 5 to 60 percent
Elevation: 200 to 2,200 feet
Mean annual precipitation: 80 to 120 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 210 days

Taxonomic classification: Medial over clayey, ferrihydritic over isotic, mesic Alic Hapludands

Typical Pedon

Oi—0 to 1 inch; slightly decomposed plant material; abrupt smooth boundary.
A1—1 to 6 inches; very dark brown (10YR 2/2) medial loam, dark brown (10YR 4/3) dry; moderate very fine and fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; moderately smeary; many very fine and fine and common medium and coarse roots; many very fine irregular pores; medium acid (pH 5.6); clear smooth boundary.
A2—6 to 19 inches; dark brown (10YR 3/3) medial loam, dark yellowish brown (10YR 4/4) dry; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and moderately plastic; moderately smeary; many very fine and fine and common medium and coarse roots; many very fine and few fine irregular pores; 3 percent paragravel; strongly acid (pH 5.4); clear irregular boundary.
Bw1—19 to 36 inches; dark yellowish brown (10YR 4/6) clay loam, brownish yellow (10YR 6/6) dry; moderate fine and medium subangular blocky structure; hard, friable, slightly sticky and moderately plastic; few fine roots; common very fine tubular pores; very coarse rounded light olive brown (2.5Y 5/4) iron depletion along an old root channel and 5-millimeter-wide ring of strong brown (7.5YR 5/6) soft iron concentration surrounding depletion; 5 percent paragravel; very strongly acid (pH 4.6); gradual wavy boundary.

Bw2—36 to 50 inches; dark yellowish brown (10YR 4/4) clay loam, brownish yellow (10YR 6/6) dry; weak medium subangular blocky structure parting to moderate fine and very fine subangular blocky; slightly hard, very friable, slightly sticky and slightly plastic; common fine irregular pores; 7 percent paragravel; very strongly acid (pH 4.6); gradual wavy boundary.

Bw3—50 to 63 inches; dark yellowish brown (10YR 4/4) clay loam, brownish yellow (10YR 6/6) dry; weak medium and coarse subangular blocky structure parting to moderate fine and very fine subangular blocky; slightly hard, very friable, slightly sticky and slightly plastic; common fine irregular pores; very coarse rounded light olive brown (2.5Y 5/4) iron depletion along an old root channel and 5-millimeter-wide ring of strong brown (7.5YR 5/6) soft iron concentration surrounding depletion; 10 percent paragravel; very strongly acid (pH 4.6).

Typical Pedon Location

Map unit in which located: Ginsberg medial loam, 5 to 30 percent slopes (fig. 111)

Location in survey area: In an area of forestland about 900 feet north and 1,800 feet west of the southeast corner of section 28, T. 3 S., R. 8 W.

Range in Characteristics

Profile

Depth to bedrock—more than 60 inches
Thickness of umbric epipedon—10 to 20 inches
Hue—10YR to 7.5YR
Reaction—very strongly acid to moderately acid

A1 horizon:

Value—2 or 3 moist, 4 or 5 dry
Chroma—2 or 3 moist, 3 or 4 dry
Texture—medial loam
Content of clay (apparent, by field estimates)—18 to 27 percent
Content of rock and pararock fragments—0 to 10 percent gravel, 0 to 10 percent cobbles, and 0 to 15 percent paragravel
Consistence—weakly smeary or moderately smeary

A2 horizon

Value—2 or 3 moist, 4 or 5 dry
Chroma—2 or 3 moist, 3 or 4 dry
Texture—medial loam or medial silt loam
Content of clay (apparent, by field estimates)—18 to 27 percent
Content of rock and pararock fragments—0 to 10 percent gravel, 0 to 10 percent cobbles, and 0 to 15 percent paragravel
Consistence—weakly smeary or moderately smeary

Bw1 horizon

Value—3 or 4 moist, 4 to 6 dry
Chroma—4 to 6 moist or dry
Texture—medial clay loam, medial loam, medial silt loam, medial silty clay loam, silty clay loam, silty clay, clay loam, paragravelly medial loam, paragravelly medial silt loam, or paragravelly clay loam
Content of clay—25 to 45 percent (apparent, by field estimates)
Content of rock and pararock fragments—0 to 10 percent gravel, 0 to 10 percent cobbles, 0 to 30 percent paragravel, and 0 to 5 percent paracobbles
Other feature—weakly smeary or moderately smeary in some pedons

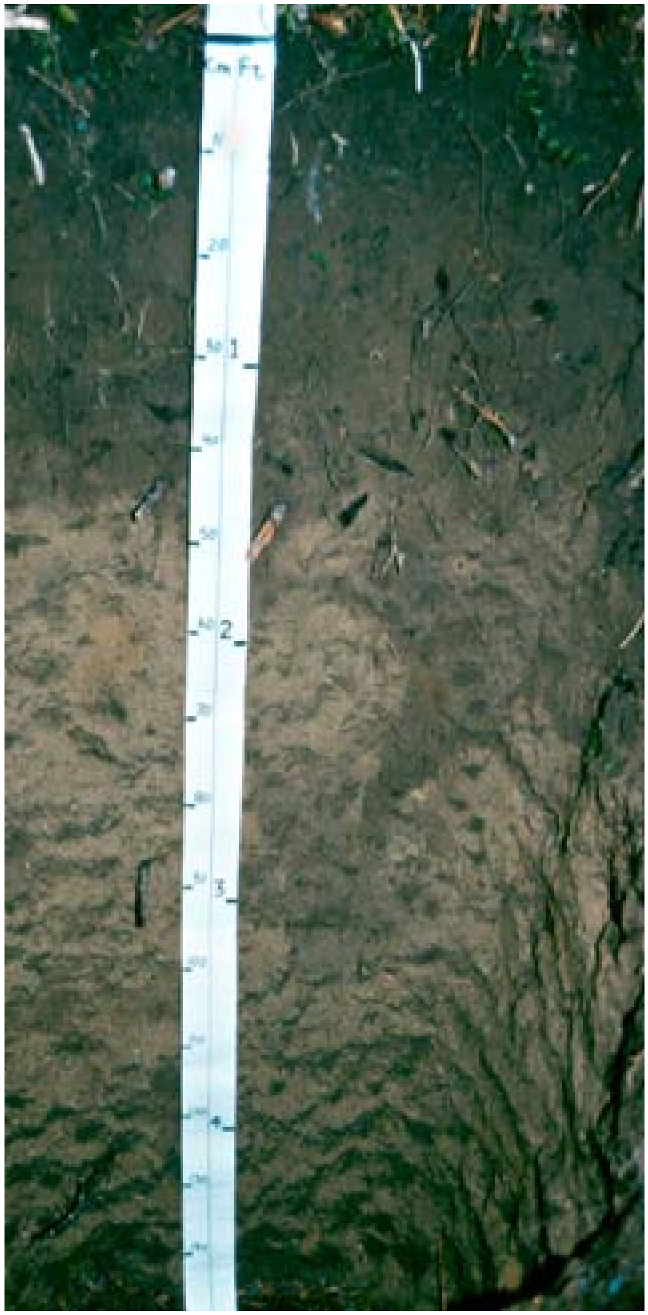

Figure 111.—Typical profile of Ginsberg medial loam, 5 to 30 percent slopes.

Bw2 and Bw3 horizons
Value—4 moist, 4 to 6 dry
Chroma—4 to 6 moist, 4 to 8 dry
Texture—clay loam, silty clay loam, silty clay, or paragravelly clay loam
Content of clay—35 to 45 percent (apparent, by field estimates)
Content of rock and pararock fragments—0 to 10 percent gravel, 0 to 10 percent cobbles, 0 to 30 percent paragravel, and 0 to 5 percent paracobbles

Harslow Series

Depth class: Moderately deep
Drainage class: Well drained
Landform: Mountains
Parent material: Colluvium derived from igneous rock
Slope range: 30 to 90 percent
Elevation: 200 to 2,200 feet
Mean annual precipitation: 80 to 120 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 210 days

Taxonomic classification: Medial-skeletal, ferrihydritic, mesic Alic Hapludands

Typical Pedon

Oi—0 to 1 inch; slightly decomposed plant material; abrupt smooth boundary.

A1—1 to 7 inches; dark brown (7.5YR 3/2) extremely gravelly medial loam, brown (10YR 4/3) dry; moderate very fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; moderately smeary; many very fine and common fine and medium roots; many very fine irregular pores; common medium rounded hard strong brown (7.5YR 4/6) iron concretions; 70 percent gravel and 5 percent cobbles; moderately acid (pH 6.0); clear smooth boundary.

A2—7 to 13 inches; dark brown (7.5YR 3/3) extremely gravelly medial loam, dark yellowish brown (10YR 4/4) dry; moderate very fine subangular blocky structure and moderate very fine granular; slightly hard, friable, slightly sticky and slightly plastic; moderately smeary; many very fine and common fine roots; many very fine irregular pores; common medium rounded hard strong brown (7.5YR 4/6) iron concretions; 60 percent gravel and 5 percent cobbles; moderately acid (pH 5.8); gradual smooth boundary.

Bw—13 to 22 inches; dark brown (7.5YR 3/4) extremely gravelly medial loam, dark yellowish brown (10YR 4/4) dry; moderate very fine subangular blocky structure and moderate very fine granular; slightly hard, friable, slightly sticky and slightly plastic; moderately smeary; many very fine and common medium roots; many very fine irregular pores; 60 percent gravel and 15 percent cobbles; moderately acid (pH 5.6); gradual wavy boundary.

BC—22 to 37 inches; dark brown (7.5YR 3/4) extremely gravelly medial loam, dark yellowish brown (10YR 4/4) dry; weak very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; moderately smeary; many very fine and few medium roots; many very fine irregular pores; 65 percent gravel and 20 percent cobbles; moderately acid (pH 5.6); clear irregular boundary.

R—37 inches; strongly fractured igneous rock.

Typical Pedon Location

Map unit in which located: Klistan-Harslow-Hemcross complex, 60 to 90 percent slopes

Location in survey area: In an area of forestland about 200 feet north and 100 feet west of the southeast corner of section 26, T. 3 S., R. 7 W.

Range in Characteristics

Profile
Depth to bedrock—20 to 40 inches
Thickness of umbric epipedon—10 to 20 inches
Content of rock fragments in particle-size control section—35 to 85 percent

Hue—10YR to 5YR
Reaction—very strongly acid to moderately acid
Consistence—weakly smeary or moderately smeary throughout

A1 horizon
Value—2 or 3 moist, 4 or 5 dry
Chroma—2 or 3 moist, 3 or 4 dry
Texture—extremely gravelly medial loam
Content of clay—15 to 25 percent (apparent, by field estimates)
Content of rock fragments—45 to 70 percent gravel and 0 to 15 percent cobbles

A2 horizon
Value—2 or 3 moist, 4 or 5 dry
Chroma—2 or 3 moist, 3 or 4 dry
Texture—extremely gravelly medial loam or very gravelly medial loam
Content of clay—15 to 25 percent (apparent, by field estimates)
Content of rock fragments—35 to 70 percent gravel and 0 to 15 percent cobbles

Bw horizon
Value—3 to 5 moist, 4 to 6 dry
Chroma—3 or 4 moist, 4 to 6 dry
Texture—extremely gravelly medial loam, very gravelly medial loam, very cobbly medial loam, or extremely cobbly medial loam
Content of clay—15 to 25 percent (apparent, by field estimates)
Content of rock fragments—20 to 70 percent gravel and 0 to 35 percent cobbles

BC horizon
Value—3 to 5 moist, 4 to 6 dry
Chroma—3 or 4 moist, 4 to 6 dry
Texture—extremely gravelly medial loam or extremely cobbly medial loam
Content of clay—20 to 27 percent (apparent, by field estimates)
Content of rock fragments—30 to 70 percent gravel and 0 to 35 percent cobbles

Hebo Series

Depth class: Very deep
Drainage class: Poorly drained
Landform: Coastal fluviomarine terraces and coastal valley stream terraces
Parent material: Mixed alluvium and/or fluviomarine deposits derived from sedimentary rock
Slope range: 0 to 5 percent
Elevation: 20 to 300 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 300 days

Taxonomic classification: Fine, isotic, acid, isomesic Typic Humaquepts

Typical Pedon

Ap—0 to 4 inches; very dark gray (10YR 3/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine and medium granular structure; hard, firm, moderately sticky and moderately plastic; many very fine roots; many very fine tubular pores; few fine prominent strong brown (7.5YR 5/6) iron-manganese masses lining pores; very strongly acid (pH 4.7); clear smooth boundary.
BA—4 to 10 inches; very dark gray (10YR 3/1) silty clay, dark gray (10YR 4/1) dry; weak medium prismatic structure and moderate very fine and fine angular blocky;

very hard, very firm, moderately sticky and very plastic; many very fine roots; common fine pores; many fine prominent strong brown (7.5YR 5/6) and dark reddish brown (5YR 3/4) iron-manganese masses on peds; very strongly acid (pH 4.7); clear smooth boundary.

Bg1—10 to 18 inches; dark gray (5Y 4/1) clay, gray (5Y 6/1) dry; weak medium prismatic structure and moderate coarse and medium angular blocky; very hard, very firm, very sticky and very plastic; common very fine roots; many coarse prominent strong brown (7.5YR 5/8) iron-manganese masses and light brownish gray (10YR 6/2) iron depletions on peds, few coarse prominent black (N 2.5/0) manganese coatings on peds, and few medium prominent black (N 2.5/0) iron-manganese concretions in matrix; very strongly acid (pH 4.6); gradual smooth boundary.

Bg2—18 to 26 inches; gray (5Y 5/1) clay, light gray (5Y 7/1) dry; moderate medium prismatic structure and strong fine and medium angular blocky; very hard, very firm, very sticky and very plastic; few very fine roots along faces of peds; few very fine pores; many coarse prominent strong brown (7.5YR 5/8) iron-manganese masses on peds, many coarse prominent black (N 2.5/0) manganese coatings on peds, and common medium prominent black (N 2.5/0) iron-manganese concretions in matrix; very strongly acid (pH 4.6); gradual smooth boundary.

BCg—26 to 35 inches; gray (5Y 5/1) and dark gray (5Y 4/1) silty clay, light gray (5Y 7/1 and 6/1) dry; weak fine angular blocky structure and weak medium subangular blocky; hard, firm, very sticky and very plastic; very few roots; many coarse prominent strong brown (7.5YR 5/8) iron-manganese masses on peds and few medium prominent black (N 2.5/0) manganese coatings on peds; very strongly acid (pH 4.6); gradual smooth boundary.

2Cg—35 to 60 inches; olive gray (5Y 4/2) clay loam, light olive gray (5Y 6/2) dry; massive; hard, firm, moderately sticky and moderately plastic; many coarse prominent strong brown (7.5YR 5/8) iron-manganese masses on peds and many coarse distinct gray (10YR 5/1) iron depletions on peds; 5 percent rounded gravel; 2 percent rounded paragravel; very strongly acid (pH 4.8).

Typical Pedon Location

Map unit in which located: Hebo silty clay loam, 0 to 5 percent slopes (fig. 112)

Location in survey area: In an area of pastureland about 0.25 mile northwest of Johnson Bridge on the Trask River; about 1,700 feet south and 200 feet west of the northeast corner of section 33, T. 1 S., R. 9 W.

Range in Characteristics

Profile

Depth to bedrock—more than 60 inches
Thickness of umbric epipedon—10 to 15 inches
Content of clay in the particle-size control section—40 to 60 percent
Depth to redoximorphic features—at the soil surface (throughout profile)

A horizon

Hue—10YR
Value—2 or 3 moist, 4 or 5 dry
Chroma—1 or 2 moist or dry
Texture—silty clay loam
Content of clay—27 to 35 percent
Reaction—extremely acid to strongly acid

Figure 112.—Typical profile of Hebo silty clay loam, 0 to 5 percent slopes.

BA horizon
Hue—10YR
Value—2 or 3 moist, 4 or 5 dry
Chroma—1 or 2 moist or dry
Texture—silty clay or silty clay loam
Content of clay—35 to 45 percent
Reaction—extremely acid to strongly acid

Bg and BCg horizons, and Bw horizon, where present
Hue—5Y or 2.5Y
Value—4 to 6 moist, 5 to 7 dry

Chroma—1 or less moist or dry
Texture—clay or silty clay
Content of clay—40 to 60 percent
Reaction—extremely acid to strongly acid
Other feature—occasional thin lenses of sand and gravel or paragravelly material in BCg horizons in some pedons

2Cg and 2C horizons, where present
Hue—10YR to 5Y
Value—4 to 6 moist, 5 to 7 dry
Chroma—1 or 2 moist or dry
Texture—clay loam, silty clay loam, or silty clay
Content of clay—35 to 45 percent
Reaction—extremely acid to moderately acid
Content of rock and pararock fragments—0 to 10 percent gravel and 0 to 5 percent paragravel
Other feature—occasional thin lenses of sand and gravel or paragravelly material in some pedons

Heceta Series

Depth class: Very deep
Drainage class: Poorly drained
Landform: Recently stabilized interdune depressions and swales
Parent material: Eolian sand
Slope range: 0 to 3 percent
Elevation: 10 to 50 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 180 to 300 days

Taxonomic classification: Mixed, isomesic Typic Psammaquents

Typical Pedon

Oi—0 to 1 inch; slightly decomposed plant material; abrupt smooth boundary.
A—1 to 6 inches; very dark gray (10YR 3/1) fine sand, gray (10YR 5/1) dry; single grain; loose, nonsticky and nonplastic; many very fine, fine, medium, and coarse roots; many very fine interstitial pores; moderately acid (pH 5.8); clear smooth boundary.
C—6 to 61 inches; dark grayish brown (2.5Y 4/2) sand, light gray (10YR 7/2) dry; single grain; loose, nonsticky and nonplastic; common fine and medium prominent strong brown (7.5YR 4/6) iron masses; moderately acid (pH 6.0).

Typical Pedon Location

Map unit in which located: Heceta fine sand, 0 to 3 percent slopes
Location in survey area: In an area of woodland about 400 feet north and 2,200 feet west of the southeast corner of section 17, T. 3 S., R. 10 W.

Range in Characteristics

Profile
Depth to bedrock—more than 60 inches
Hue—5Y to 10YR
Reaction—moderately acid throughout

A horizon
Value—2 to 5 moist, 5 to 7 dry
Chroma—1 to 3 moist or dry
Texture—fine sand
Content of clay—3 to 10 percent
Content of redoximorphic concentrations—none to many

C horizon
Value—4 or 5 moist, 6 or 7 dry
Chroma—1 to 3 moist or dry
Texture—sand, fine sand, or loamy sand
Content of clay—3 to 15 percent
Content of redoximorphic concentrations—none to many

Hembre Series

Depth class: Deep
Drainage class: Well drained
Landform: Mountains
Parent material: Colluvium and residuum derived from igneous rock
Slope range: 30 to 90 percent
Elevation: 500 to 2,200 feet
Mean annual precipitation: 80 to 120 feet
Mean annual air temperature: 46 to 52 inches
Frost-free period: 100 to 210 days

Taxonomic classification: Fine-loamy, isotic, mesic Andic Dystrudepts

Typical Pedon

Oi—0 to 1 inch; slightly decomposed plant material; abrupt smooth boundary.

A1—1 to 7 inches; dark reddish brown (5YR 3/2) medial silt loam, dark brown (7.5YR 4/4) dry; strong fine granular structure; soft, friable, slightly sticky and slightly plastic, weakly smeary; many fine roots; many very fine irregular pores; 5 percent gravel; many fine concretions; strongly acid (pH 5.2); clear smooth boundary.

A2—7 to 14 inches; dark reddish brown (5YR 3/2) silt loam, brown (7.5YR 5/4) dry; moderate fine subangular blocky structure; soft, friable, slightly sticky and slightly plastic; many fine roots; many very fine tubular pores; 5 percent gravel; many fine concretions; very strongly acid (pH 5.0); clear smooth boundary.

Bw1—14 to 19 inches; dark reddish brown (5YR 3/4) silty clay loam, reddish yellow (7.5YR 6/6) dry; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and moderately plastic; many fine roots; many very fine tubular pores; 5 percent gravel; common fine concretions; very strongly acid (pH 5.0); clear smooth boundary.

Bw2—19 to 28 inches; reddish brown (5YR 4/4) silty clay loam, reddish yellow (7.5YR 6/6) dry; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and moderately plastic; few fine roots; many very fine tubular pores; 10 percent gravel; few fine concretions; very strongly acid (pH 4.8); clear smooth boundary.

BC—28 to 43 inches; yellowish red (5YR 4/6) gravelly silty clay loam, reddish yellow (7.5YR 6/6) dry; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and moderately plastic; few fine roots; common fine tubular pores; 15 percent gravel and 5 percent cobbles; very strongly acid (pH 4.8); abrupt wavy boundary.

R—43 inches; basalt.

Typical Pedon Location

Map unit in which located: Hembre silt loam, 3 to 30 percent slopes; Washington County, Oregon
Location: In an area of forestland about 1 mile southwest of Windy Point; about 1,000 feet south and 2,500 feet east of the northwest corner of section 21, T. 1 S., R. 6 W.

Range in Characteristics

Profile
Depth to bedrock—40 to 60 inches
Thickness of umbric epipedon—10 to 20 inches
Hue—7.5YR or 5YR
Reaction—very strongly acid or strongly acid

A1 horizon
Value—2 or 3 moist, 4 or 5 dry
Chroma—2 or 3 moist, 3 or 4 dry
Texture—medial silt loam
Content of clay—18 to 27 percent (apparent, by field estimates)
Content of rock fragments—0 to 15 percent gravel and 0 to 10 percent cobbles
Consistence—weakly smeary or moderately smeary

A2 horizon
Value—3 moist, 4 or 5 dry
Chroma—2 or 3 moist, 3 or 4 dry
Texture—medial silt loam or silt loam
Content of clay—18 to 27 percent (apparent, by field estimates)
Content of rock fragments—0 to 15 percent gravel and 0 to 10 percent cobbles

Bw horizon
Value—3 or 4 moist, 4 to 6 dry
Chroma—4 to 6 moist or dry
Texture—silty clay loam or silt loam
Content of clay—25 to 30 percent
Content of rock fragments—0 to 15 percent gravel and 0 to 10 percent cobbles

BC horizon
Value—4 to 6 moist or dry
Chroma—4 to 6 moist or dry
Texture—gravelly silty clay loam, gravelly silt loam, cobbly silty clay loam, or cobbly silt loam
Content of clay—25 to 30 percent
Content of rock fragments—0 to 35 percent gravel and 0 to 20 percent cobbles

Hemcross Series

Depth class: Very deep
Drainage class: Well drained
Landform: Mountains
Parent material: Colluvium and residuum derived from igneous rock and tuff
Slope range: 5 to 90 percent
Elevation: 200 to 2,200 feet
Mean annual precipitation: 80 to 120 inches

Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 210 days

Taxonomic classification: Medial, ferrihydritic, mesic Alic Hapludands

Typical Pedon

Oi—0 to 1 inch; slightly decomposed plant material; abrupt smooth boundary.
A1—1 to 9 inches; dark brown (7.5YR 3/2) medial loam, brown (7.5YR 4/2) dry; moderate fine subangular blocky structure and moderate very fine granular; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; many very fine and common fine roots; many very fine irregular and tubular pores; few fine and medium rounded strong brown (7.5YR 4/6) iron-manganese concretions; very strongly acid (pH 5.0); clear smooth boundary.
A2—9 to 20 inches; dark brown (7.5YR 3/3) medial loam, dark yellowish brown (10YR 4/4) dry; moderate fine and very fine granular structure; soft, very friable, slightly sticky and slightly plastic; moderately smeary; many very fine and fine roots; many very fine irregular pores; few fine and medium rounded strong brown (7.5YR 4/6) iron-manganese concretions; very strongly acid (pH 5.0); clear smooth boundary.
Bw1—20 to 49 inches; brown (7.5YR 4/4) medial loam, yellowish brown (10YR 5/4) dry; weak medium subangular blocky structure parting to moderate fine and very fine subangular blocky; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; common fine and very fine roots; many very fine tubular pores; very strongly acid (pH 5.0); clear wavy boundary.
Bw2—49 to 62 inches; brown (7.5YR 4/4) medial loam, yellowish brown (10YR 5/4) dry; moderate fine and very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; common very fine roots; many very fine tubular pores; 5 percent paragravel; very strongly acid (pH 5.0).

Typical Pedon Location

Map unit in which located: Hemcross-Klistan complex, 5 to 30 percent slopes
Location in survey area: In an area of forestland about 0.3 mile north of “Lake Tahoe”; about 2,200 feet south and 1,400 feet east of the northwest corner of section 31, T. 2 S., R. 7 W.

Range in Characteristics

Profile
Depth to bedrock—more than 60 inches
Thickness of umbric epipedon—10 to 20 inches
Consistence—weakly smeary or moderately smeary throughout
Reaction—very strongly acid or strongly acid

A horizon
Hue—7.5YR or 10YR
Value—2 or 3 moist, 4 or 5 dry
Chroma—2 or 3 moist, 3 or 4 dry
Texture—medial loam
Content of clay—15 to 25 percent (apparent, by field estimates)
Content of rock and pararock fragments—0 to 10 percent gravel, 0 to 5 percent cobbles, and 0 to 15 percent paragravel

Bw horizon
Hue—5YR to 10YR
Value—3 or 4 moist, 5 or 6 dry
Chroma—4 or 6 moist or dry
Texture—medial loam, medial clay loam, gravelly medial loam, or gravelly medial clay loam

Content of clay—18 to 30 percent (apparent, by field estimates)
Content of rock and pararock fragments—0 to 30 percent gravel, 0 to 5 percent cobbles, 0 to 35 percent paragravel, and 0 to 10 percent paracobbles

Histosols

Depth class: Very deep
Drainage class: Very poorly drained
Landform: Tidal marshes and coastal freshwater swamps
Parent material: Organic material over alluvium or estuarine deposits; stratified organic material and alluvium; or organic material throughout
Slope range: 0 to 1 percent
Elevation: 0 to 10 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 180 to 300 days

Taxonomic classification: Isomesic Histosols

Reference Pedon

Oe—0 to 7 inches; very dark grayish brown (10YR 3/2) mucky peat, grayish brown (10YR 4/2) dry; about 60 percent herbaceous fibers unrubbed, 20 percent rubbed; massive; slightly sticky and slightly plastic; many very fine, fine, and medium roots; about 10 percent mineral material; slightly acid (pH 6.2); abrupt smooth boundary.
Oa1—7 to 13 inches; black (5Y 2.5/1) muck, dark gray (2.5Y 4/0) dry; about 45 percent herbaceous fibers unrubbed, 10 percent rubbed; massive; slightly sticky and slightly plastic; many very fine, fine, and medium roots; about 30 percent mineral material; neutral (pH 7.0); clear smooth boundary.
Oa2—13 to 20 inches; black (5Y 2.5/1) muck, dark gray (2.5Y 4/0) dry; about 45 percent herbaceous fibers unrubbed, 10 percent rubbed; massive; slightly sticky and slightly plastic; many very fine, fine, and medium roots; about 35 percent mineral material; neutral (pH 7.2); clear smooth boundary.
2C1—20 to 32 inches; dark gray (5Y 4/1) mucky silt loam, gray (5Y 5/1) dry; massive; hard, firm, slightly sticky and slightly plastic; common very fine and fine tubular pores; about 10 percent herbaceous fibers; neutral (pH 7.2); gradual smooth boundary.
2C2—32 to 60 inches; dark gray (5Y 4/1) mucky silty clay loam, gray (5Y 5/1) dry; massive; hard, firm, sticky and slightly plastic; common very fine and fine tubular pores; about 10 percent herbaceous fibers; neutral (pH 7.2).

Reference Pedon Location

Map unit in which located: Fluvaquents-Histosols complex, 0 to 1 percent slopes
Location in survey area: In an area of native high salt marsh vegetation about 0.75 mile south of the town of Idaville, Oregon; about 2,000 feet north and 600 feet east of the southwest corner of section 12, T. 1 S., R. 10 W.

Range in Characteristics

Profile
Depth to bedrock—more than 60 inches
Other feature—organic material within a depth 16 inches of the surface and 16 to 60 inches thick or more; large woody material in some pedons

Oe or Oa horizon (surface tier)

Description of material—hemic or sapric organic material; fiber moderately decomposed to well decomposed; botanic origin of herbaceous material not readily determinable or difficult to determine
Hue—7.5YR to 5Y
Value—2 or 3 moist, 4 to 6 dry
Chroma—2 or less moist or dry
Texture—muck or mucky peat
Reaction: Natural phase—moderately acid to neutral; diked phase—extremely acid to moderately acid
Fiber content—35 to 85 percent unrubbed, 10 to 40 percent rubbed
Content of mineral material—5 to 35 percent
Other feature—in some pedons, surface tier consists of mineral layers or includes mineral layers that are silt loam or mucky silt loam with 18 to 25 percent clay and 0 to 20 percent herbaceous fibers

Oe or Oa horizon (upper part of subsurface tier)

Description of material—hemic or sapric organic material; fiber moderately decomposed to well decomposed; botanic origin of herbaceous material not readily determinable or difficult to determine
Hue—7.5YR or 5Y
Value—2 or 3 moist, 4 to 6 dry
Chroma—1 or less moist or dry
Texture—muck or mucky peat
Content of fibers—35 to 85 percent unrubbed, 5 to 40 percent rubbed
Content of mineral material—5 to 35 percent
Reaction—moderately acid to neutral

2C horizon (lower part of subsurface tier)

Description of material—mineral soil material, or hemic or sapric organic material in which the fiber is moderately decomposed to well decomposed and the botanic origin of herbaceous material not readily determinable or difficult to determine
Hue—10YR to 5BG
Value—2 to 4 moist, 4 to 6 dry
Chroma—1 or less moist or dry
Texture—mucky silt loam, silt loam, mucky silty clay loam, silty clay loam, or fine sandy loam
Content of clay—10 to 35 percent
Reaction—moderately acid to neutral
Content of herbaceous fibers—0 to 15 percent
Other feature—in some pedons, tier consists of hemic or sapric material as described for upper part of subsurface tier or consists of hemic or sapric material with thin layers of mineral soil material

2C horizon (bottom tier)

Material—mineral soil, or hemic or sapric organic material in which fiber is moderately decomposed to well decomposed and botanic origin of herbaceous material not readily determinable or difficult to determine
Hue—10YR to 5BG
Value—2 to 4 moist, 4 to 6 dry
Chroma—1 or less moist or dry
Texture—mucky silty clay loam, silt loam, mucky silt loam, silty clay loam, or fine sandy loam
Content of clay—10 to 35 percent
Reaction—moderately acid to neutral
Content of herbaceous fibers—0 to 15 percent

Other feature—in some pedons, tier consists of hemic or sapric material as described for upper part of subsurface tier or consists of hemic or sapric material with thin layers of mineral material

Horseprairie Series

Depth class: Very deep
Drainage class: Well drained
Landform: Marine terraces
Parent material: Eolian and/or marine deposits
Slope range: 3 to 20 percent
Elevation: 100 to 300 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 180 to 300 days

Taxonomic classification: Fine-loamy, isotic, isomesic Andic Dystrudepts

Typical Pedon

Oi—0 to 2 inches; slightly decomposed plant material; abrupt smooth boundary.
A—2 to 11 inches; dark brown (7.5YR 3/3) medial loam, brown (7.5YR 4/3) dry; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; weakly smeary; many very fine, fine, medium, and coarse roots; few very fine irregular pores; common medium dark reddish brown (5YR 3/2) iron-manganese concretions; very strongly acid (pH 4.8); clear smooth boundary.
Bw1—11 to 28 inches; dark brown (10YR 3/3) loam, brown (10YR 5/3) dry; moderate fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine, fine, and medium roots; few very fine irregular pores; common medium dark reddish brown (5YR 3/2) iron-manganese concretions; very strongly acid (pH 5.0); clear wavy boundary.
Bw2—28 to 45 inches; dark yellowish brown (10YR 4/6) loam, brownish yellow (10YR 6/6) dry; weak medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; few fine roots; few very fine irregular pores; very strongly acid (pH 5.0); abrupt smooth boundary.
2C—45 to 62 inches; yellowish brown (10YR 5/6) loamy sand, yellow (10YR 7/6) dry; massive; moderately hard, firm, nonsticky and nonplastic; brittle, very weakly cemented; strongly acid (pH 5.2).

Typical Pedon Location

Map unit in which located: Horseprairie-Ferrelo complex, 3 to 20 percent slopes
Location in survey area: In an area of forestland about 1.5 miles northwest of the town of Sandlake, Oregon; about 1,600 feet north and 2,200 feet west of the southeast corner of section 7, T. 2 S., R. 10 W.

Range in Characteristics

Profile
Depth to bedrock—more than 60 inches
Thickness of umbric epipedon—20 to 35 inches, including upper part of Bw horizon
Content of clay in the particle-size control section—20 to 27 percent
Hue—7.5YR or 10YR

A horizon
Value—2 or 3 moist, 3 or 4 dry
Chroma—2 or 3 moist or dry

Texture—medial loam
Content of clay—10 to 18 percent (apparent, by field estimates)
Reaction—very strongly acid or strongly acid
Consistence—weakly smeary or moderately smeary

Bw horizon
Value—3 or 4 moist, 5 or 6 dry
Chroma—3 to 6 moist or dry
Texture—loam
Content of clay—20 to 27 percent
Reaction—very strongly acid or strongly acid

2C horizon
Value—4 to 6 moist, 5 to 7 dry
Chroma—4 to 6 moist or dry
Texture—loamy sand or sandy loam
Content of clay—2 to 10 percent
Reaction—strongly acid or moderately acid

Humaquepts

Depth class: Very deep
Drainage class: Poorly drained
Landform: Stream terraces
Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 0 to 3 percent
Elevation: 20 to 1,900 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 48 to 52 degrees
Frost-free period: 120 to 260 days

Taxonomic classification: Isomesic and mesic Humaquepts

Reference Pedon

A—0 to 11 inches; very dark gray (10YR 3/1) silty clay loam, grayish brown (10YR 5/2) dry; moderate fine subangular blocky structure; moderately hard, firm, moderately sticky and moderately plastic; many fine and very fine roots throughout; many very fine irregular and tubular pores; 5 percent fine distinct dark brown (7.5YR 3/4) and prominent strong brown (7.5YR 4/6) iron masses on peds and in pores; very strongly acid (pH 4.6); clear smooth boundary.

Bw1—11 to 19 inches; dark gray (10YR 4/1) silty clay loam, light brownish gray (10YR 6/2) dry; moderate fine subangular blocky structure; hard, firm, moderately sticky and moderately plastic; common very fine and fine roots throughout; common very fine and fine tubular pores; 20 percent fine prominent strong brown (7.5YR 4/6) iron masses on peds and in pores; very strongly acid (pH 4.6); clear smooth boundary.

Bw2—19 to 30 inches; dark gray (5Y 4/1) silty clay, gray (5Y 5/1) dry; moderate medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few fine tubular pores; 20 percent fine prominent strong brown (7.5YR 4/6) iron masses on peds and in pores; very strongly acid (pH 4.6); clear smooth boundary.

Bw3—30 to 50 inches; gray (5Y 5/1) silty clay, light gray (5Y 7/1) dry; moderate medium subangular blocky structure; very hard, very firm, moderately sticky and moderately plastic; few fine tubular pores; 20 percent fine prominent strong brown (7.5YR 4/6) iron masses on peds and in pores; very strongly acid (pH 4.6); clear smooth boundary.

BC—50 to 60 inches; light olive gray (5Y 6/2) silty clay loam, light gray (5Y 7/1) dry; weak fine subangular blocky structure; moderately hard, firm, moderately sticky and slightly plastic; few fine tubular pores; 40 percent fine prominent strong brown (7.5YR 4/6 and 5/6) iron masses on peds and in pores; 5 percent rounded siltstone paragravel; very strongly acid (pH 4.8).

Reference Pedon Location

Map unit in which located: Dystrudepts-Aquepts-Humaquepts complex, warm, 0 to 7 percent slopes

Location in survey area: In an area of native vegetation about 3 miles southeast of Dolph, Oregon; about 1,850 feet east and 1,600 feet south of the northwest corner of section 11, T. 6 S., R. 9 W.

Range in Characteristics

Profile

Depth to bedrock—more than 60 inches
Thickness of umbric epipedon—10 to 20 inches
Depth to depleted matrix with chroma of 2 or less—0 to 10 inches
Reaction—very strongly acid to moderately acid

A horizon

Hue—10YR or 7.5YR
Value—2 or 3 moist, 4 or 5 dry
Chroma—1 to 3 moist or dry
Texture—silty clay loam or silt loam
Content of clay—18 to 35 percent
Content of pararock fragments—0 to 10 percent paragravel

Bw horizon

Hue—10YR to 5Y
Value—4 to 6 moist, 5 to 7 dry
Chroma—2 or less moist or dry
Texture—silty clay loam, silty clay, silt loam, loam, clay loam, gravelly clay loam, or very gravelly loam
Content of clay—25 to 45 percent
Content of pararock fragments—0 to 10 percent paragravel

BC and C horizons, where present

Hue—10YR to 5B
Value—4 to 6 moist, 5 to 7 dry
Chroma—2 or less moist or dry
Texture—silty clay loam or paragravelly silty clay loam
Content of clay—27 to 40 percent
Content of pararock fragments—0 to 25 percent paragravel

Kilchis Series

Depth class: Shallow
Drainage class: Well drained
Landform: Mountains
Parent material: Colluvium derived from igneous rock
Slope range: 60 to 90 percent
Elevation: 200 to 2,200
Mean annual precipitation: 80 to 120 inches
Mean annual air temperature: 46 to 52 degrees
Frost-free period: 100 to 210 days

Taxonomic classification: Loamy-skeletal, isotic, mesic Humic Lithic Dystrudepts

Typical Pedon

Oi—0 to 1 inch; slightly decomposed plant material; abrupt smooth boundary.

A—1 to 7 inches; dark brown (7.5YR 3/2) very gravelly medial loam, brown (7.5YR 5/2) dry; moderate fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; many fine and very fine roots; many fine and medium irregular pores; 40 percent gravel; very strongly acid (pH 5.0); gradual wavy boundary.

Bw—7 to 11 inches; dark brown (7.5YR 3/2) very gravelly loam, brown (7.5YR 5/2) dry; moderate very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many fine roots; many fine and medium irregular pores; 40 percent gravel and 15 percent cobbles; very strongly acid (pH 5.0); clear wavy boundary.

C—11 to 19 inches; dark brown (7.5YR 3/2) extremely cobbly loam, brown (7.5YR 5/2) dry; massive; slightly hard, friable, slightly sticky and slightly plastic; common fine and medium roots; common fine irregular pores; 30 percent gravel and 50 percent cobbles; strongly acid (pH 5.2); abrupt wavy boundary.

R—19 inches; fractured basalt.

Typical Pedon Location

Map unit in which located: Kilchis-Rock outcrop complex, 60 to 90 percent slopes; Clatsop County, Oregon

Location: In an area of forestland above old spur road off Spruce Run South Road; about 2,000 feet north and 2,000 feet west of the southeast corner of section 19, T. 4 N., R. 7 W.

Range in Characteristics

Profile

Depth to bedrock—12 to 20 inches
Thickness of umbric epipedon—7 to 20 inches
Hue—7.5YR or 5YR
Reaction—very strongly acid or strongly acid

A horizon

Value—2 or 3 moist, 4 or 5 dry
Chroma—2 or 3 moist, 2 to 4 dry
Texture—very gravelly medial loam
Content of clay—12 to 27 percent (apparent, by field estimates)
Content of rock fragments—35 to 50 percent gravel and 0 to 10 percent cobbles
Consistence—weakly smeary or moderately smeary

Bw horizon

Value—2 or 3 moist, 3 to 5 dry
Chroma—2 to 4 moist or dry
Texture—very gravelly loam or extremely gravelly loam
Content of clay—12 to 27 percent
Content of rock fragments—35 to 55 percent gravel and 0 to 15 percent cobbles

C horizon

Value—2 or 3 moist, 3 to 5 dry
Chroma—3 or 4 moist or dry
Texture—extremely cobbly loam or extremely gravelly loam

Content of clay—12 to 27 percent
Content of rock fragments—20 to 60 percent gravel and 15 to 65 percent cobbles

Killam Series

Depth class: Moderately deep
Drainage class: Well drained
Landform: Mountains
Parent material: Colluvium derived from igneous rock
Slope range: 40 to 90 percent
Elevation: 1,600 to 3,000 feet
Mean annual precipitation: 110 to 120 inches
Mean annual air temperature: 42 to 46 degrees F
Frost-free period: 90 to 120 days

Taxonomic classification: Medial-skeletal, ferrihydritic, isofrigid Pachic Fulvudands

Typical Pedon

Oi—0 to 2 inches; slightly decomposed plant material; abrupt smooth boundary.
A1—2 to 14 inches; black (10YR 2/1) extremely gravelly medial loam, very dark grayish brown (10YR 3/2) dry; moderate very fine granular and subangular blocky structure; soft, very friable, nonsticky and nonplastic; strongly smeary; many very fine, fine, and medium roots; many very fine and fine irregular pores; 60 percent gravel, 5 percent cobbles, and 5 percent stones; very strongly acid (pH 5.0); clear wavy boundary.
A2—14 to 23 inches; very dark brown (10YR 2/2) extremely gravelly medial loam, dark brown (10YR 3/3) dry; moderate very fine granular and subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; strongly smeary; many very fine, fine, and medium roots; many very fine and fine irregular pores; 55 percent gravel, 10 percent cobbles, and 5 percent stones; very strongly acid (pH 5.0); clear wavy boundary.
Bw—23 to 31 inches; dark brown (10YR 3/3) extremely gravelly medial loam, brown (10YR 4/3) dry; moderate very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; strongly smeary; many very fine and few fine, medium, and coarse roots; many very fine and fine irregular pores; 55 percent gravel and 10 percent cobbles; very strongly acid (pH 5.0); clear irregular boundary.
R—31 inches; fractured basalt.

Typical Pedon Location

Map unit in which located: Killam-Fawceter-Rock outcrop complex, 60 to 90 percent slopes (fig. 113)
Location in survey area: In an area of forestland about 700 feet east and 300 feet north of the southwest corner of section 7, T. 1 N., R. 8 W.

Range in Characteristics

Profile
Depth to bedrock—20 to 40 inches
Thickness of umbric epipedon—20 to 40 inches

Figure 113.—Typical profile of Killam extremely gravelly medial loam in an area of Killam-Fawceter-Rock outcrop complex, 60 to 90 percent slopes.

Content of rock fragments in particle-size control section—60 to 80 percent
Hue—10YR or 7.5YR
Reaction—very strongly acid or strongly acid
Consistence—weakly smeary to strongly smeary throughout

A1 horizon
Value—2 or 3 moist, 2 to 5 dry
Chroma—1 to 3 moist, 2 to 4 dry
Texture—extremely gravelly medial loam
Content of clay—15 to 20 percent (apparent, by field estimates)
Content of rock fragments—50 to 70 percent gravel, 0 to 20 percent cobbles, and 0 to 10 percent stones

A2 horizon
Value—2 or 3 moist, 2 to 5 dry
Chroma—2 or 3 moist, 2 to 4 dry
Texture—extremely gravelly medial loam or extremely cobbly medial loam
Content of clay—15 to 22 percent (apparent, by field estimates)
Content of rock fragments—20 to 70 percent gravel, 0 to 50 percent cobbles, and 0 to 10 percent stones

Bw horizon
Value—3 or 4 moist, 4 or 5 dry
Chroma—3 or 4 moist or dry
Texture—extremely gravelly medial loam or extremely cobbly medial loam
Content of clay—15 to 25 percent (apparent, by field estimates)
Content of rock fragments—20 to 70 percent gravel, 0 to 50 percent cobbles, and 0 to 10 percent stones

Klickitat Series

Depth class: Deep
Drainage class: Well drained
Landform: Mountains
Parent material: Colluvium derived from igneous rock
Slope range: 30 to 60 percent
Elevation: 800 to 2,200 feet
Mean annual precipitation: 80 to 120 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 210 days

Taxonomic classification: Loamy-skeletal, isotic, mesic Humic Dystrudepts

Typical Pedon

Oi—0 to 1 inch; slightly decomposed plant material; abrupt smooth boundary.
A1—1 to 5 inches; dark reddish brown (5YR 3/2) very cobbly medial loam, reddish brown (5YR 4/3) dry; moderate very fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; many fine and very fine roots; many very fine irregular pores; 20 percent cobbles, 20 percent gravel, and 5 percent stones; strongly acid (pH 5.2); clear smooth boundary.
A2—5 to 13 inches; dark reddish brown (5YR 3/3) very cobbly loam, reddish brown (5YR 4/4) dry; moderate very fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; many fine roots; many very fine irregular pores; 25 percent gravel, 20 percent cobbles, and 5 percent stones; very strongly acid (pH 5.0); clear smooth boundary.
Bw1—13 to 19 inches; dark brown (7.5YR 3/4) very cobbly loam, brown (7.5YR 5/4) dry; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many fine roots; many fine tubular pores; 20 percent cobbles, 20 percent gravel, and 5 percent stones; very strongly acid (pH 5.0); gradual smooth boundary.
Bw2—19 to 42 inches; reddish brown (5YR 4/4) extremely cobbly loam, reddish brown (5YR 5/3) dry; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many fine roots; many fine tubular pores; 50 percent cobbles, 30 percent gravel, and 5 percent stones; very strongly acid (pH 5.0); gradual wavy boundary.
R—42 inches; basalt.

Typical Pedon Location

Map unit in which located: Klickitat very cobbly medial loam, 30 to 60 percent slopes; Washington County, Oregon
Location: In an area of forestland about 500 feet north and 2,000 feet east of the southwest corner of section of 14, T. 2 N., R. 6 W.

Range in Characteristics

Profile
Depth to bedrock—40 to 60 inches
Thickness of umbric epipedon—10 to 20 inches
Reaction—very strongly acid or strongly acid
Hue—10YR to 5YR

A1 horizon
Value—2 or 3 moist, 3 to 5 dry
Chroma—2 or 3 moist or dry
Texture—very cobbly medial loam
Content of clay—20 to 27 percent (apparent, by field estimates)
Content of rock fragments—15 to 35 percent gravel, 10 to 20 percent cobbles, and 0 to 10 percent stones
Consistence—weakly smeary or moderately smeary

A2 horizon
Value—2 or 3 moist, 3 to 5 dry
Chroma—3 moist, 3 or 4 dry
Texture—very cobbly loam or very gravelly loam
Content of clay—20 to 27 percent
Content of rock fragments—15 to 35 percent gravel, 10 to 20 percent cobbles, and 0 to 10 percent stones

Bw horizon
Value—3 or 4 moist, 4 to 6 dry
Chroma—4 to 6 moist or dry
Texture—very cobbly loam, very gravelly clay loam, very cobbly clay loam, extremely cobbly loam, or extremely cobbly clay loam
Content of clay—25 to 35 percent
Content of rock fragments—15 to 35 percent gravel, 10 to 50 percent cobbles, and 0 to 10 percent stones

Klistan Series

Depth class: Deep
Drainage class: Well drained
Landform: Mountains
Parent material: Colluvium derived from igneous rock
Slope range: 5 to 90 percent
Elevation: 200 to 2,200 feet
Mean annual precipitation: 80 to 120 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 210 days

Taxonomic classification: Medial-skeletal, ferrihydritic, mesic Alic Hapludands

Typical Pedon

Oi—0 to 1 inch; slightly decomposed plant material; abrupt smooth boundary.

A1—1 to 7 inches; dark brown (7.5YR 3/2) very gravelly medial loam, brown (7.5YR 4/3) dry; moderate very fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; moderately smeary; many very fine roots; many very fine irregular pores; common fine rounded hard strong brown (7.5YR 4/6) iron-manganese concretions; 45 percent gravel; very strongly acid (pH 5.0); clear wavy boundary.
A2—7 to 14 inches; dark brown (7.5YR 3/3) very gravelly medial loam, brown (7.5YR 4/3) dry; moderate very fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; moderately smeary; many very fine, common fine, and few coarse roots; many very fine irregular pores; common fine rounded hard strong brown (7.5YR 4/6) iron-manganese concretions; 40 percent gravel; very strongly acid (pH 4.8); clear wavy boundary.
Bw1—14 to 26 inches; dark brown (7.5YR 3/4) very gravelly medial loam, brown (7.5YR 4/4) dry; moderate very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; common very fine and few fine roots; many very fine irregular pores; common fine rounded hard strong brown (7.5YR 4/6) iron-manganese concretions; 40 percent gravel; very strongly acid (pH 4.6); clear wavy boundary.
Bw2—26 to 36 inches; dark brown (7.5YR 3/4) extremely gravelly medial loam, brown (7.5YR 5/4) dry; weak very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; common very fine and fine and few medium roots; many very fine irregular pores; common fine rounded hard strong brown (7.5YR 4/6) iron-manganese concretions; 60 percent gravel and 5 percent cobbles; very strongly acid (pH 4.6); gradual wavy boundary.
Bw3—36 to 44 inches; brown (7.5YR 4/4) extremely gravelly medial loam, strong brown (7.5YR 5/6) dry; weak very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; few very fine and medium and common fine roots; many very fine irregular pores; common fine rounded hard strong brown (7.5YR 4/6) iron-manganese concretions; 60 percent gravel and 10 percent cobbles; very strongly acid (pH 4.8); clear wavy boundary.
R—44 inches; fractured volcanic rock.

Typical Pedon Location

Map unit in which located: Hemcross-Klistan complex, 30 to 60 percent slopes
Location in survey area: In an area of forestland about 700 feet south and 2,200 feet east of the northwest corner of section 13, T. 4 S., R. 7 W.

Range in Characteristics

Profile
Depth to bedrock—40 to 60 inches
Thickness of umbric epipedon—10 to 20 inches
Content of rock fragments in particle-size control section—40 to 70 percent
Hue—7.5YR or 10YR
Reaction—very strongly acid or strongly acid
Consistence—weakly smeary or moderately smeary throughout

A horizon
Value—2 or 3 moist, 3 to 5 dry
Chroma—2 or 3 moist or dry
Texture—very gravelly medial loam
Content of clay—12 to 25 percent (apparent, by field estimates)
Content of rock fragments—30 to 55 percent gravel and 0 to 10 percent cobbles

Bw and BC horizons, where present
Value—3 or 4 moist, 4 to 6 dry
Chroma—3 or 4 moist or dry
Texture—very gravelly medial loam, very cobbly medial loam, extremely gravelly medial loam, or extremely cobbly medial loam
Content of clay—18 to 25 percent (apparent, by field estimates)
Content of rock fragments—25 to 65 percent gravel and 0 to 35 percent cobbles

Klootchie Series

Depth class: Very deep
Drainage class: Well drained
Landform: Mountains
Parent material: Colluvium and residuum derived from igneous rock and/or tuff
Slope range: 3 to 90 percent
Elevation: 50 to 1,800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Taxonomic classification: Medial, ferrihydritic, isomesic Typic Fulvudands

Typical Pedon

Oi—0 to 1 inch; slightly decomposed plant material; abrupt smooth boundary.
A1—1 to 9 inches; very dark brown (7.5YR 2/2) medial silt loam, brown (10YR 4/3) dry; moderate fine and very fine subangular blocky structure parting to moderate fine granular; slightly hard, friable, slightly sticky and slightly plastic; moderately smeary; many very fine and common fine, medium, and coarse roots; few very fine irregular pores; 5 percent gravel and 5 percent paragravel; very strongly acid (pH 5.0); clear smooth boundary.
A2—9 to 19 inches; dark brown (7.5YR 3/2) medial silt loam, brown (10YR 4/3) dry; moderate very fine and fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; moderately smeary; common very fine and fine roots; few fine irregular pores; 5 percent gravel; very strongly acid (pH 5.0); clear wavy boundary.
Bw1—19 to 44 inches; dark yellowish brown (10YR 3/4) medial silty clay loam, dark yellowish brown (10YR 4/4) dry; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; moderately smeary; common very fine and fine roots; few very fine tubular pores; 5 percent gravel; very strongly acid (pH 5.0); gradual smooth boundary.
Bw2—44 to 68 inches; dark yellowish brown (10YR 4/4) medial silty clay loam, yellowish brown (10YR 5/4) dry; moderate medium and fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; moderately smeary; common very fine, fine, and medium roots; few very fine tubular pores; 5 percent gravel; very strongly acid (pH 5.0).

Typical Pedon Location

Map unit in which located: Klootchie-Necanicum complex, 30 to 60 percent slopes (fig. 114)
Location in survey area: In an area of forestland about 3 miles northwest of Trask Park; about 500 feet north and 800 feet west of the southeast corner of section 15, T. 1 S., R. 8 W.

Figure 114.—Typical profile of Klootchie medial silt loam in an area of Klootchie-Necanicum complex, 30 to 60 percent slopes.

Range in Characteristics

Profile

Depth to bedrock—more than 60 inches
Thickness of umbric epipedon—12 to 20 inches
Hue—10YR or 7.5YR
Reaction—very strongly acid or strongly acid
Consistence—weakly smeary or moderately smeary throughout

A1 horizon

Value—2 or 3 moist, 4 or 5 dry
Chroma—2 or 3 moist, 3 dry
Texture—medial silt loam

Content of clay—18 to 20 percent (apparent, by field estimates)
Content of rock and pararock fragments—0 to 10 percent gravel, 0 to 5 percent cobbles, 0 to 10 percent paragravel, and 0 to 5 percent paracobbles

A2 horizon
Value—2 or 3 moist, 4 or 5 dry
Chroma—2 or 3 moist, 3 dry
Texture—medial silt loam or medial loam
Content of clay—18 to 25 percent (apparent, by field estimates)
Content of rock and pararock fragments—0 to 10 percent gravel, 0 to 5 percent cobbles, 0 to 10 percent paragravel, and 0 to 5 percent paracobbles

Bw horizon
Value—3 or 4 moist, 4 to 6 dry
Chroma—4 to 6 moist or dry
Texture—medial silty clay loam, medial clay loam, medial silt loam, medial loam, gravelly medial silty clay loam, gravelly medial clay loam, gravelly medial silt loam, or gravelly medial loam
Content of clay—20 to 30 percent (apparent, by field estimates)
Content of rock and pararock fragments—0 to 25 percent gravel, 0 to 10 percent cobbles, 0 to 40 percent paragravel, and 0 to 20 percent paracobbles

Knappa Series

Depth class: Very deep
Drainage class: Well drained
Landform: Coastal fluviomarine terraces and coastal valley stream terraces
Parent material: Mixed alluvium and/or fluviomarine deposits derived from sedimentary rock
Slope range: 0 to 15 percent
Elevation: 20 to 550 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 300 days

Taxonomic classification: Fine-silty, isotic, isomesic Andic Dystrudepts

Typical Pedon

Ap—0 to 9 inches; very dark brown (10YR 2/2) medial silt loam, brown (10YR 4/3) dry; moderate very fine and fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; many very fine and few fine roots throughout; many very fine irregular pores; some peds affected by heat from fire; very strongly acid (pH 4.6); clear smooth boundary.
A—9 to 20 inches; very dark brown (10YR 2/2) silt loam, brown (10YR 4/3) dry; moderate very fine and fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; common very fine and few fine roots throughout; many very fine irregular pores; few peds affected by heat from fire; very strongly acid (pH 4.6); clear smooth boundary.
Bw1—20 to 25 inches; dark yellowish brown (10YR 3/4) silty clay loam, yellowish brown (10YR 5/4) dry; moderate very fine and fine subangular blocky structure; slightly hard, friable, moderately sticky and slightly plastic; few very fine roots throughout; common very fine and fine tubular pores; many dark brown (10YR 3/3) organic coatings on faces of peds; very strongly acid (pH 4.8); gradual smooth boundary.

Bw2—25 to 45 inches; dark yellowish brown (10YR 4/6) silty clay loam, yellow (10YR 7/6) dry; moderate fine and medium subangular blocky structure; slightly hard, friable, moderately sticky and slightly plastic; few very fine roots throughout; common very fine and fine tubular pores; common worm casts; 1 percent gravel and 2 percent paragravel; very strongly acid (pH 4.8); gradual smooth boundary.

Bw3—45 to 60 inches; dark yellowish brown (10YR 4/6) silty clay loam, yellow (10YR 7/6) dry; weak coarse subangular blocky structure parting to moderate fine and medium subangular blocky; slightly hard, friable, moderately sticky and slightly plastic; few very fine roots throughout; common very fine and fine tubular pores; few worm casts; 2 percent gravel and 5 percent paragravel; very strongly acid (pH 4.8).

Typical Pedon Location

Map unit in which located: Knappa medial silt loam, 3 to 15 percent slopes (fig. 115)

Location in survey area: In an area of pastureland about 1.4 miles southwest of Cloverdale, Oregon; about 400 feet north and 800 feet east of the southwest corner of section 27, T. 4 S., R 10 W.

Range in Characteristics

Profile

Depth to bedrock—more than 60 inches
Thickness of umbric epipedon—20 to 30 inches
Content of clay in the particle-size control section—25 to 35 percent
Content of rock fragments in the particle-size control section—0 to 10 percent
Reaction—extremely acid to strongly acid
Hue—10YR or 7.5YR

Ap horizon

Value—2 or 3 moist, 3 to 5 dry
Chroma—2 or 3 moist or dry
Texture—medial silt loam
Content of clay—18 to 25 percent (apparent, by field estimate)
Consistence—weakly smeary or moderately smeary

A horizon

Value—2 or 3 moist, 3 to 5 dry
Chroma—2 or 3 moist or dry
Texture—silt loam or medial silt loam
Content of clay—18 to 25 percent (apparent, by field estimate)
Consistence—weakly smeary or moderately smeary

Bw1 and Bw2 horizons

Value—3 or 4 moist, 5 to 7 dry
Chroma—4 to 6 moist or dry
Texture—silty clay loam or silt loam
Content of clay—25 to 35 percent
Content of rock fragments—0 to 10 percent gravel and 0 to 10 percent paragravel

Bw3 and BC horizons, where present

Value—3 or 4 moist, 5 to 7 dry
Chroma—4 to 6 moist or dry
Texture—silty clay loam, silt loam, paragravelly silty clay loam, or paragravelly silt loam
Content of clay—25 to 35 percent
Content of rock fragments—0 to 10 percent gravel and 0 to 35 percent paragravel

Figure 115.—Typical profile of Knappa medial silt loam, 3 to 15 percent slopes.

Laderly Series

Depth class: Moderately deep
Drainage class: Well drained
Landform: Mountains
Parent material: Colluvium derived from igneous rock
Slope range: 3 to 90 percent
Elevation: 1,800 to 3,000 feet
Mean annual precipitation: 100 to 130 inches
Mean annual air temperature: 42 to 46 degrees
Frost-free period: 60 to 100 days

Taxonomic classification: Medial-skeletal, ferrihydritic, frigid Alic Hapludands

Typical Pedon

Oi—0 to 1 inch; slightly decomposed plant material; abrupt smooth boundary.
A—1 to 13 inches; dark brown (7.5YR 3/2) very gravelly medial loam, brown (7.5YR 4/3) dry; moderate very fine granular structure; slightly hard, friable, slightly sticky

and slightly plastic; moderately smeary; many very fine and fine roots; many very fine and fine irregular pores; 15 percent iron-manganese concretions that are 0.5 to 5.0 millimeters in size; 45 percent gravel and 5 percent cobbles; strongly acid (pH 5.2); clear wavy boundary.

Bw1—13 to 22 inches; dark brown (7.5YR 3/4) very gravelly medial loam, brown (7.5YR 5/4) dry; weak very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; moderately smeary; many very fine and common fine roots; many very fine and fine irregular pores; 15 percent iron-manganese concretions that are 0.5 to 5.0 millimeters in size; 45 percent gravel and 10 percent cobbles; strongly acid (pH 5.2); gradual wavy boundary.

Bw2—22 to 30 inches; brown (7.5YR 4/4) extremely cobbly medial loam, brown (7.5YR 5/6) dry; weak very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; moderately smeary; many very fine roots; many very fine and fine irregular pores; 10 percent iron-manganese concretions that are 0.5 to 5.0 millimeters in size; 35 percent gravel, 35 percent cobbles, and 10 percent stones; strongly acid (pH 5.2); gradual irregular boundary.

R—30 inches; fractured basalt.

Typical Pedon Location

Map unit in which located: Murtip-Caterl-Laderly complex, 30 to 60 percent slopes

Location in survey area: In an area of forestland about 1,000 feet east and 300 feet south of the northwest corner of section 14, T. 3 S., R. 7 W.

Range in Characteristics

Profile

Depth to bedrock—20 to 40 inches

Thickness of umbric epipedon—10 to 20 inches

Content of rock fragments in particle-size control section—35 to 80 percent

Hue—10YR or 7.5YR

Reaction—very strongly acid or strongly acid

Consistence—weakly smeary or moderately smeary throughout

A horizon

Value—2 or 3 moist, 3 to 5 dry

Chroma—2 or 3 moist or dry

Texture—very gravelly medial loam

Content of clay—12 to 20 percent (apparent, by field estimates)

Content of rock fragments—25 to 50 percent gravel and 0 to 10 percent cobbles

Bw horizon

Value—3 or 4 moist, 4 to 6 dry

Chroma—4 to 6 moist or dry

Texture—very gravelly medial loam, very cobbly medial loam, extremely gravelly medial loam, or extremely cobbly medial loam

Content of clay—15 to 27 percent (apparent, by field estimates)

Content of rock fragments—20 to 60 percent gravel, 0 to 50 percent cobbles, and 0 to 15 percent stones

Lebam Series

Depth class: Very deep

Drainage class: Well drained

Landform: Hills and mountains

Parent material: Colluvium and residuum derived from tuffaceous sedimentary rock

Slope range: 3 to 90 percent

Elevation: 50 to 1,800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Taxonomic classification: Medial over clayey, ferrihydritic over isotic, isomesic Typic Fulvudands

Typical Pedon

Oi—0 to 1 inch; slightly decomposed plant material; abrupt smooth boundary.

A1—1 to 10 inches; very dark brown (10YR 2/2) medial silt loam, dark brown (10YR 4/3) dry; moderate fine subangular blocky structure; slightly hard, firm, slightly sticky and slightly plastic; moderately smeary; many very fine and fine and common medium and coarse roots; few very fine irregular pores; strongly acid (pH 5.2); gradual smooth boundary.

A2—10 to 18 inches; dark brown (10YR 3/3) medial silt loam, dark yellowish brown (10YR 4/4) dry; weak medium subangular blocky structure parting to moderate very fine subangular blocky; slightly hard, very friable, slightly sticky and slightly plastic; moderately smeary; many very fine and fine and common medium and coarse roots; few fine irregular pores; strongly acid (pH 5.4); clear wavy boundary.

Bw1—18 to 44 inches; dark yellowish brown (10YR 4/4) silty clay loam, yellowish brown (10YR 5/6) dry; moderate fine and medium subangular blocky structure parting to weak very fine subangular blocky; slightly hard, friable, moderately sticky and moderately plastic; few fine roots; common very fine tubular pores; 5 percent paragravel; very strongly acid (pH 4.6); clear wavy boundary.

Bw2—44 to 61 inches; dark yellowish brown (10YR 4/6) very paragravelly silty clay loam, yellowish brown (10YR 5/6) dry; moderate medium and fine subangular blocky structure parting to weak very fine subangular blocky; slightly hard, friable, moderately sticky and moderately plastic; common very fine irregular pores; 30 percent paragravel and 5 percent paracobbles; very strongly acid (pH 4.6); gradual wavy boundary.

Bw3—61 to 76 inches; dark yellowish brown (10YR 4/6) very paragravelly silty clay loam, yellowish brown (10YR 5/6) dry; weak fine and very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine irregular pores; 35 percent paragravel and 10 percent paracobbles; very strongly acid (pH 4.6).

Typical Pedon Location

Map unit in which located: Lebam-Necanicum complex, 30 to 60 percent slopes (fig. 116)

Location in survey area: In an area of forestland about 1.3 miles southwest of Blaine, Oregon; about 900 feet south and 1,600 feet west of the northeast corner of section 36, T. 3 S., R. 9 W.

Range in Characteristics

Profile
Depth to bedrock—more than 60 inches
Thickness of umbric epipedon—10 to 20 inches
Reaction—very strongly acid or strongly acid
Hue—10YR or 7.5YR

A1 horizon
Value—2 or 3 moist, 4 or 5 dry
Chroma—2 or 3 moist, 3 or 4 dry

Figure 116.—Typical profile of Lebam medial silt loam in an area of Lebam-Necanicum complex, 30 to 60 percent slopes.

Texture—medial silt loam
Content of clay—15 to 25 percent (apparent, by field estimates)
Content of rock and pararock fragments—0 to 10 percent gravel, 0 to 10 percent cobbles, 0 to 10 percent paragravel, and 0 to 10 percent paracobbles
Consistence—weakly smeary or moderately smeary

A2 horizon
Value—2 or 3 moist, 4 or 5 dry
Chroma—2 or 3 moist, 3 or 4 dry
Texture—medial silt loam
Content of clay—20 to 27 percent (apparent, by field estimates)
Content of rock and pararock fragments—0 to 10 percent gravel, 0 to 10 percent cobbles, 0 to 15 percent paragravel, and 0 to 15 percent paracobbles
Consistence—weakly smeary or moderately smeary

Bw1 horizon
Value—3 or 4 moist, 4 or 5 dry
Chroma—4 to 6 moist or dry
Texture—silty clay loam or paragravelly silty clay loam
Content of clay—27 to 40 percent (apparent, by field estimates)
Content of rock and pararock fragments—0 to 10 percent gravel, 0 to 10 percent cobbles, 0 to 25 percent paragravel, and 0 to 10 percent paracobbles

Bw2 and Bw3 horizons
Value—3 or 4 moist, 4 to 6 dry
Chroma—4 to 6 moist, 4 to 8 dry
Texture—very paragravelly silty clay loam, silty clay loam, clay loam, silty clay, paragravelly silty clay loam, paragravelly silty clay, paragravelly clay loam, or very paragravelly clay loam
Content of clay—35 to 45 percent (apparent, by field estimates)
Content of rock and pararock fragments—0 to 10 percent gravel, 0 to 10 percent cobbles, 0 to 60 percent paragravel, and 0 to 15 percent paracobbles

Logsden Series

Depth class: Very deep
Drainage class: Well drained
Landform: Stream terraces
Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 0 to 5 percent
Elevation: 20 to 200 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Taxonomic classification: Fine-silty, isotic, isomesic Humic Dystrudepts

Typical Pedon

Ap—0 to 8 inches; very dark grayish brown (10YR 3/2) silt loam, dark brown (10YR 4/3) dry; weak fine subangular blocky structure parting to moderate very fine subangular blocky; slightly hard, friable, slightly sticky and slightly plastic; many very fine roots; many very fine tubular pores; strongly acid (pH 5.3); clear smooth boundary.
A—8 to 17 inches; dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; weak fine subangular blocky structure parting to moderate very fine subangular blocky; slightly hard, friable, slightly sticky and slightly plastic; common very fine roots; many very fine tubular pores; strongly acid (pH 5.2); clear smooth boundary.
Bw1—17 to 37 inches; dark brown (10YR 4/3) silty clay loam, pale brown (10YR 6/3) dry; moderate fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine roots; common very fine tubular pores; very strongly acid (pH 4.8); gradual smooth boundary.
Bw2—37 to 60 inches; dark brown (10YR 4/3) silty clay loam, pale brown (10YR 6/3) dry; moderate fine and medium subangular blocky structure; moderately hard, firm, slightly sticky and slightly plastic; few very fine roots; common very fine tubular pores; very strongly acid (pH 4.8).

Typical Pedon Location

Map unit in which located: Logsden silt loam, 0 to 3 percent slopes
Location in survey area: In an area of pastureland about 3 miles southeast of Tillamook, Oregon; about 1,100 feet east and 350 feet north of the southwest corner of section 34, T. 1 S., R. 10 W.

Range in Characteristics

Profile
Depth to bedrock—more than 60 inches
Thickness of umbric epipedon—10 to 20 inches
Reaction—very strongly acid or strongly acid

Ap and A horizons
Value—2 or 3 moist, 4 or 5 dry
Chroma—2 or 3 moist or dry
Texture—silt loam
Content of clay—18 to 25 percent

Bw horizon
Value—3 to 5 moist, 5 to 7 dry
Chroma—3 to 6 moist or dry
Texture—silt loam or silty clay loam
Content of clay—20 to 35 percent

2C horizon, where present
Value—3 to 5 moist, 5 or 6 dry
Chroma—3 to 6 moist or dry
Texture—commonly stratified; loamy sand to loam
Content of clay—5 to 20 percent
Depth to horizon—more than 40 inches

McDuff Series

Depth class: Moderately deep
Drainage class: Well drained
Landform: Mountains
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 5 to 50 percent
Elevation: 200 to 2,200 feet
Mean annual precipitation: 80 to 120 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 210 days

Taxonomic classification: Fine, isotic, mesic Typic Haplohumults

Typical Pedon

Oi—0 to 1 inch; slightly decomposed plant material; abrupt smooth boundary.

A1—1 to 9 inches; very dark grayish brown (10YR 3/2) silty clay loam, brown (10YR 5/3) dry; moderate fine subangular blocky and granular structure; hard, friable, slightly sticky and slightly plastic; common fine roots throughout; many very fine tubular and irregular pores; 5 percent paragravel; very strongly acid (pH 4.8); gradual wavy boundary.

A2—9 to 13 inches; dark brown (10YR 3/3) silty clay loam, brown (10YR 5/3) dry; moderate medium and fine subangular blocky structure; hard, firm, moderately sticky and moderately plastic; common fine roots throughout; many very fine tubular pores; 5 percent paragravel; very strongly acid (pH 5.0); clear wavy boundary.

Bt—13 to 21 inches; brown (7.5YR 4/4) paragravelly clay, light yellowish brown (10YR 6/4) dry; moderate medium and very fine subangular blocky structure; very hard, firm, very sticky and very plastic; common fine roots

throughout; many very fine tubular pores; many faint clay films on all faces of peds; 15 percent paragravel; very strongly acid (pH 5.0); clear wavy boundary.

BCt—21 to 37 inches; strong brown (7.5YR 4/6) very paragravelly clay, brownish yellow (10YR 6/6) dry; weak fine subangular blocky structure; hard, firm, very sticky and very plastic; few fine roots throughout; many very fine tubular pores; many faint clay films on all faces of peds; 35 percent paragravel; very strongly acid (pH 5.0); abrupt irregular boundary.

Cr—37 inches; weakly cemented, strongly weathered siltstone and sandstone.

Typical Pedon Location

Map unit in which located: Apt-McDuff silty clay loams, 30 to 50 percent slopes; Benton County, Oregon

Location: In an area of forestland about 2.5 miles south of Nortons, Oregon; about 3,150 feet south and 2,650 feet west of the northeast corner of section 7, T. 11 S., R. 8 W.

Range in Characteristics

Profile

Depth to bedrock—20 to 40 inches
Thickness of umbric epipedon—10 to 20 inches
Reaction—very strongly acid or strongly acid
Content of clay in the particle-size control section—40 to 60 percent
Content of rock fragments in the particle-size control section—0 to 10 percent
Content of pararock fragments in the particle-size control section—0 to 35 percent
Hue—7.5YR or 10YR

A horizon

Value—2 or 3 moist, 4 or 5 dry
Chroma—2 or 3 moist or dry
Texture—silty clay loam in upper part and silty clay loam or paragravelly silty clay loam in lower part
Content of clay—27 to 35 percent
Content of rock and pararock fragments—0 to 5 percent gravel and 0 to 20 percent paragravel
Consistence—weakly smeary or moderately smeary

Bt horizon

Value—3 or 4 moist, 5 or 6 dry
Chroma—3 to 6 moist or dry
Texture—silty clay, paragravelly silty clay, or clay
Content of clay—40 to 60 percent
Content of rock and pararock fragments—0 to 5 percent gravel, 0 to 35 percent paragravel, and 0 to 5 percent paracobbles

BCt horizon

Value—4 or 5 moist, 4 to 7 dry
Chroma—4 to 6 moist or dry
Texture—very paragravelly silty clay, very paragravelly clay, paragravelly silty clay, or paragravelly clay
Content of clay—40 to 60 percent
Content of rock and pararock fragments—0 to 10 percent gravel, 10 to 50 percent paragravel, and 0 to 5 percent paracobbles

McMille Series

Depth class: Deep
Drainage class: Well drained
Landform: Mountains
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 3 to 30 percent
Elevation: 1,800 to 3,000 feet
Mean annual precipitation: 100 to 130 inches
Mean annual air temperature: 42 to 46 degrees F
Frost-free period: 60 to 100 days

Taxonomic classification: Fine-silty, isotic, frigid Andic Dystrudepts

Typical Pedon

A thin discontinuous lens of Mount St Helens ash is between the Oi and A1 horizons.

Oi—0 to 1 inch; slightly decomposed plant material; abrupt smooth boundary.
A1—1 to 5 inches; dark brown (7.5YR 3/3) medial silt loam, brown (10YR 4/3) dry; moderate very fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; weakly smeary; many very fine, fine, and medium roots; many very fine irregular pores; 10 percent iron-manganese concretions that are 0.5 to 5.0 millimeters in size; 5 percent gravel; very strongly acid (pH 5.0); gradual smooth boundary.
A2—5 to 14 inches; dark brown (7.5YR 3/3) medial silt loam, yellowish brown (5/4) dry; moderate very fine and fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; many very fine, fine, and medium and few coarse roots; many very fine and fine irregular pores; 15 percent iron-manganese concretions 0.5 to 5.0 millimeters in size; 5 percent gravel; very strongly acid (pH 5.0); clear smooth boundary.
Bw1—14 to 20 inches; brown (7.5YR 4/4) silt loam, yellowish brown (10YR 5/6) dry; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine and few medium roots; many very fine and fine tubular pores; 5 percent gravel; very strongly acid (pH 5.0); gradual smooth boundary.
Bw2—20 to 32 inches; yellowish brown (10YR 5/4) silty clay loam, brownish yellow (10YR 6/6) dry; moderate fine and medium subangular blocky structure; hard, firm, moderately sticky and slightly plastic; few very fine and fine roots; many very fine and fine tubular pores; 5 percent gravel and 5 percent siltstone paragravel; very strongly acid (pH 5.0); gradual smooth boundary.
Bw3—32 to 45 inches; yellowish brown (10YR 5/4) paragravelly silty clay loam, brownish yellow (10YR 6/6) dry; moderate medium subangular blocky structure; hard, firm, moderately sticky and slightly plastic; few very fine roots; many very fine and fine tubular pores; 2 percent gravel; 20 percent siltstone paragravel; 4-inch round brown (7.5YR 4/4) krotovina; very strongly acid (pH 5.0); clear wavy boundary.
Cr—45 inches; fractured, partially weathered siltstone.

Typical Pedon Location

Map unit in which located: McMille-Mutt medial silt loams, 5 to 30 percent slopes
Location in survey area: In an area of forestland about 1.5 miles northeast of Dovre Peak; about 2,100 feet west and 500 feet north of the southeast corner of section 1, T. 3 S., R. 7 W.

Range in Characteristics

Profile
Depth to bedrock—40 to 60 inches
Thickness of umbric epipedon—10 to 20 inches
Reaction—very strongly acid or strongly acid
Hue—10YR or 7.5YR

A1 horizon
Value—2 or 3 moist, 4 or 5 dry
Chroma—2 or 3 moist, 3 or 4 dry
Texture—medial silt loam
Content of clay—18 to 27 percent (apparent, by field estimates)
Content of rock and pararock fragments—0 to 10 percent gravel, 0 to 10 percent cobbles, and 0 to 10 percent paragravel
Consistence—weakly smeary or moderately smeary

A2 horizon
Value—2 or 3 moist, 4 or 5 dry
Chroma—3 moist, 3 or 4 dry
Texture—medial silt loam or silt loam
Content of clay—18 to 27 percent (apparent, by field estimates)
Content of rock and pararock fragments—0 to 10 percent gravel, 0 to 10 percent cobbles, and 0 to 10 percent paragravel
Consistence—weakly smeary or moderately smeary

Bw1 and Bw2 horizons
Value—4 or 5 moist, 5 to 7 dry
Chroma—4 to 6 moist or dry
Texture—silt loam, silty clay loam, paragravelly silt loam, or paragravelly silty clay loam
Content of clay—20 to 35 percent
Content of rock and pararock fragments—0 to 10 percent gravel, 0 to 10 percent cobbles, and 0 to 35 percent paragravel

Bw3 and BC horizons, where present
Value—4 or 5 moist, 5 to 7 dry
Chroma—4 to 6 moist or dry
Texture—paragravelly silty clay loam, silt loam, silty clay loam, paragravelly silt loam, very paragravelly silt loam, or very paragravelly silty clay loam
Content of clay—18 to 35 percent
Content of rock and pararock fragments—0 to 10 percent gravel, 0 to 10 percent cobbles, and 0 to 50 percent paragravel

Melby Series

Depth class: Deep
Drainage class: Well drained
Landform: Mountains
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 5 to 60 percent
Elevation: 500 to 2,200 feet
Mean annual precipitation: 80 to 120 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 210 days

Taxonomic classification: Fine, isotic, mesic Typic Dystrudepts

Typical Pedon

Oi—0 to 1 inch; slightly decomposed plant material; abrupt smooth boundary.

A—1 to 5 inches; dark brown (7.5YR 3/2) silt loam, dark yellowish brown (10YR 4/4) dry; strong fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many fine roots; many very fine irregular pores; many fine concretions; strongly acid (pH 5.5); clear smooth boundary.

AB—5 to 10 inches; dark brown (7.5YR 3/4) silt loam, dark yellowish brown (10YR 4/5) dry; strong medium and fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many fine and medium roots; many very fine tubular pores; strongly acid (pH 5.4); clear smooth boundary.

Bw1—10 to 18 inches; dark brown (7.5YR 3/4) silty clay loam, dark yellowish brown (10YR 4/3) dry; moderate medium and fine subangular blocky structure; slightly hard, friable, slightly sticky and plastic; many medium and fine roots; many very fine tubular pores; strongly acid (pH 5.4); clear smooth boundary.

Bw2—18 to 26 inches; dark brown (7.5YR 4/4) silty clay loam, yellowish brown (10YR 5/6) dry; moderate medium and fine subangular blocky structure; slightly hard, friable, slightly sticky and moderately plastic; many medium roots; many very fine tubular pores; strongly acid (pH 5.4); abrupt smooth boundary.

Bw3—26 to 42 inches; dark brown (7.5YR 4/4) silty clay, yellowish brown (10YR 5/6) dry; moderate coarse and medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; few fine roots; many very fine tubular pores; few thin clay films in pores and channels; very strongly acid (pH 4.8); clear smooth boundary.

Bw4—42 to 47 inches; strong brown (7.5YR 5/6) silty clay, brownish yellow (10YR 6/6) dry; weak medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; common fine tubular pores; 10 percent paragravel; very strongly acid (pH 4.8); clear wavy boundary.

Cr—47 inches; soft, fractured siltstone and shale.

Typical Pedon Location

Map unit in which located: Melby silt loam, 2 to 30 percent slopes; Washington County, Oregon

Location: In an area of forestland about 1 mile east of the Timber junction, on U.S. Highway 26; about 1,000 feet north and 2,500 feet east of the southwest corner of section 11, T. 3 N., R. 5 W.

Range in Characteristics

Profile

Depth to bedrock—40 to 60 inches
Hue—10YR or 7.5YR
Reaction—very strongly acid to strongly acid

A horizon

Value—2 or 3 moist, 4 or 5 dry
Chroma—2 to 4 moist, 4 to 6 dry
Texture—silt loam
Content of clay—20 to 25 percent
Content of rock and pararock fragments—0 to 5 percent gravel and 0 to 10 percent paragravel

Bw1 and Bw2 horizons

Value—3 or 4 moist, 4 or 5 dry
Chroma—4 to 6 moist or dry
Texture—silty clay loam or paragravelly silty clay loam

Content of clay—35 to 40 percent
Content of rock and pararock fragments—0 to 5 percent gravel and 0 to 30 percent paragravel

Bw3 and Bw4 horizons
Value—4 or 5 moist, 5 or 6 dry
Chroma—4 to 8 moist, 6 to 8 dry
Texture—silty clay
Content of clay—40 to 45 percent
Content of rock and pararock fragments—0 to 5 percent gravel and 0 to 10 percent paragravel

Mosscreek Series

Depth class: Very deep
Drainage class: Well drained
Landform: Mountains
Parent material: Colluvium and residuum derived from igneous rock and/or tuff
Slope range: 5 to 90 percent
Elevation: 1,600 to 3,000 feet
Mean annual precipitation: 110 to 120 inches
Mean annual air temperature: 42 to 46 degrees F
Frost-free period: 90 to 120 days

Taxonomic classification: Medial, ferrihydritic, isofrigid Pachic Fulvudands

Typical Pedon

Oi—0 to 2 inches; slightly decomposed plant material; abrupt smooth boundary.
A1—2 to 15 inches; very dark brown (7.5YR 2/2) medial silt loam, dark brown (10YR 3/3) dry; moderate fine and very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; moderately smeary; many very fine and fine roots; many very fine and few fine irregular pores; 5 percent gravel; very strongly acid (pH 4.6); clear smooth boundary.
A2—15 to 27 inches; very dark grayish brown (10YR 3/2) medial silt loam, brown (10YR 4/3) dry; moderate very fine subangular blocky and granular structure; slightly hard, friable, moderately sticky and slightly plastic; moderately smeary; common very fine and fine roots; many very fine and few fine irregular pores; 10 percent gravel and 5 percent paragravel; very strongly acid (pH 4.8); gradual wavy boundary.
Bw1—27 to 57 inches; dark brown (10YR 3/3) medial silt loam, brown (10YR 4/3) dry; moderate fine subangular blocky structure; slightly hard, friable, moderately sticky and slightly plastic; strongly smeary; few fine and very fine roots; many very fine and few fine irregular pores; 5 percent gravel, 5 percent cobbles, and 3 percent paragravel; strongly acid (pH 5.2); gradual wavy boundary.
Bw2—57 to 65 inches; dark brown (10YR 3/3) gravelly medial loam, brown (10YR 5/3) dry; moderate fine and very fine subangular blocky structure; slightly hard, friable, moderately sticky and slightly plastic; strongly smeary; common fine roots; common very fine and few fine irregular pores; 25 percent gravel and 5 percent cobbles; strongly acid (pH 5.4).

Typical Pedon Location

Map unit in which located: Mosscreek-Fawceter complex, 30 to 60 percent slopes
Location in survey area: In an area of forestland about 1.4 miles west of Edwards Butte; about 1,300 feet north and 2,300 feet east of the southwest corner of section 18, T. 2 S., R. 8 W.

Range in Characteristics

Profile
Depth to bedrock—more than 60 inches
Thickness of umbric epipedon—20 inches or more
Hue—10YR or 7.5YR
Reaction—very strongly acid or strongly acid
Consistence—weakly smeary or moderately smeary throughout

A1 horizon
Value—2 or 3 moist, 3 or 4 dry
Chroma—2 or 3 moist, 3 or 4 dry
Texture—medial silt loam
Content of clay—15 to 25 percent (apparent, by field estimates)
Content of rock and pararock fragments—0 to 10 percent gravel, 0 to 10 percent cobbles, and 0 to 15 percent paragravel

A2 horizon
Value—2 or 3 moist, 3 or 4 dry
Chroma—2 or 3 moist, 3 or 4 dry
Texture—medial silt loam, medial loam, or gravelly medial silt loam
Content of clay—15 to 25 percent (apparent, by field estimates)
Content of rock and pararock fragments—0 to 15 percent gravel, 0 to 10 percent cobbles, and 0 to 15 percent paragravel

Bw1 horizon
Value—3 or 4 moist, 3 to 5 dry
Chroma—3 or 4 moist or dry
Texture—medial silt loam, medial loam, medial clay loam, medial silty clay loam, gravelly medial loam, or gravelly medial clay loam
Content of clay—20 to 30 percent (apparent, by field estimates)
Content of rock and pararock fragments—0 to 30 percent gravel, 0 to 10 percent cobbles, and 0 to 15 percent paragravel

Bw2 horizon
Value—3 or 4 moist, 3 to 5 dry
Chroma—3 or 4 moist or dry
Texture—gravelly medial loam, gravelly medial clay loam, very gravelly medial loam, or very gravelly medial clay loam
Content of clay—20 to 30 percent (apparent, by field estimates)
Content of rock and pararock fragments—15 to 50 percent gravel, 0 to 10 percent cobbles, and 0 to 25 percent paragravel

Mues Series

Depth class: Very deep
Drainage class: Moderately well drained
Landform: Stream terraces
Parent material: Silty alluvium over consolidated gravelly alluvium derived from igneous and sedimentary rock
Slope range: 0 to 3 percent
Elevation: 20 to 300 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Taxonomic classification: Medial over loamy-skeletal, ferrihydritic over isotic, isomesic Aquic Fulvudands

Typical Pedon

Ap—0 to 6 inches; very dark brown (7.5YR 2/2) medial silt loam, dark brown (10YR 4/3) dry; moderate very fine and fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; moderately smeary; many very fine roots; many very fine tubular and irregular pores; very strongly acid (pH 5.0); clear smooth boundary.

A—6 to 11 inches; very dark brown (7.5YR 2/2) medial silt loam, dark brown (10YR 4/3) dry; moderate very fine and fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; many very fine roots; many very fine tubular pores; very strongly acid (pH 5.0); gradual smooth boundary.

AB—11 to 25 inches; dark brown (7.5YR 3/2) medial silt loam, brown (10YR 5/3) dry; moderate very fine and fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; many very fine roots; many very fine tubular pores; very strongly acid (pH 5.0); clear smooth boundary.

Bw1—25 to 31 inches; brown (7.5YR 4/4) medial silt loam, brown (10YR 5/4) dry; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; many very fine roots; many very fine tubular pores; few fine faint strong brown (7.5YR 5/6) irregular iron masses in matrix; very strongly acid (pH 5.0); clear smooth boundary.

Bw2—31 to 36 inches; brown (7.5YR 4/4) medial silt loam, brown (10YR 5/4) dry; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; common very fine roots; many very fine tubular pores; many medium distinct yellowish red (5YR 4/6) iron masses on surfaces of peds; very strongly acid (pH 5.0); clear wavy boundary.

2C—36 to 60 inches; pale brown and light yellowish brown (10YR 6/4 and 6/3) very gravelly loam, light gray and very pale brown (10YR 7/2 and 7/3) dry; strongly consolidated; extremely hard, extremely firm; 45 percent gravel and 10 percent cobbles; many medium distinct yellowish brown (10YR 5/8) and brown (7.5YR 5/4) iron masses on faces of peds; very strongly acid (pH 5.0).

Typical Pedon Location

Map unit in which located: Mues silt loam, 0 to 3 percent slopes; Clatsop County, Oregon

Location: In an area of pastureland about 125 feet northeast of the farmhouse near the Lewis and Clark River; about 500 feet south and 2,500 feet west of the northeast corner of section 18, T. 7 N., R. 9 W.

Range in Characteristics

Profile

Depth to bedrock—more than 60 inches
Thickness of umbric epipedon—20 to 30 inches
Depth to strongly contrasting textural stratification—25 to 40 inches
Hue—10YR or 7.5YR
Reaction—extremely acid or very strongly acid

A and Ap horizons

Value—2 or 3 moist, 4 or 5 dry
Chroma—2 or 3 moist or dry
Texture—medial silt loam
Content of clay—15 to 25 percent (apparent, by field estimates)
Consistence—weakly smeary or moderately smeary

Bw horizon
Value—3 or 4 moist, 5 or 6 dry
Chroma—3 or 4 moist or dry
Texture—medial silt loam
Content of clay—15 to 25 percent (apparent, by field estimates)
Consistence—weakly smeary or moderately smeary

2C horizon
Value—6 or 7 moist or dry
Chroma—2 to 4 moist or dry
Texture—very gravelly loam or extremely gravelly loam
Content of clay—15 to 25 percent
Content of rock fragments—40 to 65 percent gravel and 5 to 15 percent cobbles

Mulkey Series

Depth class: Moderately deep
Drainage class: Well drained
Landform: Mountains
Parent material: Colluvium and residuum derived from igneous rock
Slope range: 5 to 30 percent
Elevation: 2,800 to 3,700 feet
Mean annual precipitation: 130 to 150 inches
Mean annual air temperature: 39 to 42 degrees F
Frost-free period: 40 to 80 days

Taxonomic classification: Medial, ferrihydritic Pachic Fulvicryands

Typical Pedon

A1—0 to 10 inches; black (7.5YR 2.5/1) medial loam, very dark gray (7.5YR 3/1) dry; moderate very fine granular structure; soft, very friable, nonsticky and nonplastic; moderately smeary; many very fine roots; many fine and very fine irregular pores; many fine and medium dark reddish brown (5YR 3/2 and 3/3) spherical very weakly cemented iron-manganese concretions in matrix; 3 percent gravel; very strongly acid (pH 4.9); gradual smooth boundary.

A2—10 to 19 inches; very dark brown (7.5YR 2.5/3) gravelly medial loam, dark brown (7.5YR 3/2) dry; moderate very fine granular structure; soft, very friable, nonsticky and nonplastic; moderately smeary; common very fine roots; many fine and very fine irregular pores; many fine and medium dark reddish brown (5YR 3/2 and 3/3) spherical very weakly cemented iron-manganese concretions in matrix; 15 percent gravel and 5 percent cobbles; very strongly acid (pH 5.0); clear smooth boundary.

Bw—19 to 26 inches; dark brown (10YR 3/3) cobbly medial loam, brown (10YR 4/3) dry; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; moderately smeary; common very dark brown (10YR 2/2) and black (10YR 2/1) organic coatings on faces of peds; few very fine roots; few fine irregular pores and few very fine tubular pores; few fine dark reddish brown (5YR 3/3) spherical very weakly cemented iron-manganese concretions in matrix; 20 percent cobbles and 5 percent stones; strongly acid (pH 5.3); abrupt irregular boundary.

R—26 inches; indurated, coarse-grained intrusive igneous rock with a minor amount of soil material from Bw horizon in fractures; fractures 4 to 18 inches apart.

Typical Pedon Location

Map unit in which located: Mulkey medial loam, 3 to 30 percent slopes; Benton County, Oregon

Location: In an area of grassland 150 yards east of the Marys Peak Campground, about 200 feet northeast of the lone fir tree behind the natural amphitheater; about 1,500 feet north and 1,400 feet east of the southwest corner of section 21, T. 12 S., R. 7 W.

Range in Characteristics

Profile
Depth to bedrock—20 to 40 inches
Thickness of umbric epipedon—more than 20 inches
Hue—10YR to 5YR
Consistence—weakly smeary or moderately smeary throughout

A1 horizon
Value—2 or 3 moist, 3 to 5 dry
Chroma—1 or 2 moist or dry
Texture—medial silt loam
Content of clay—10 to 20 percent (apparent, by field estimates)
Content of rock and pararock fragments—0 to 15 percent gravel and 0 to 10 percent paragravel
Reaction—extremely acid or very strongly acid

A2 horizon
Value—2 or 3 moist, 3 to 5 dry
Chroma—2 or 3 moist or dry
Texture—medial loam or gravelly medial loam
Content of clay—10 to 20 percent (apparent, by field estimates)
Content of rock fragments—0 to 20 percent gravel, 0 to 10 percent cobbles, and 0 to 5 percent stones
Reaction—extremely acid or very strongly acid

Bw horizon
Value—3 or 4 moist, 4 or 5 dry
Chroma—2 to 4 moist or dry, with 3 or 4 moist below a depth of 20 inches
Texture—medial loam, medial sandy loam, gravelly medial loam, gravelly medial sandy loam, cobbly medial loam, or cobbly medial sandy loam
Content of clay—10 to 20 percent (apparent, by field estimates)
Content of rock fragments—0 to 15 percent gravel, 0 to 20 percent cobbles, and 0 to 5 percent stones
Reaction—very strongly acid or strongly acid

Munsoncreek Series

Depth class: Deep
Drainage class: Well drained
Landform: Hills and mountains
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 5 to 60 percent
Elevation: 50 to 1,800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Taxonomic classification: Fine, isotic, isomesic Andic Dystrudepts

Typical Pedon

Oi—0 to 1 inch; slightly decomposed plant material; abrupt smooth boundary.

A—1 to 10 inches; dark brown (10YR 3/3) medial silt loam, brown (10YR 4/3) dry; moderate very fine and fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; moderately smeary; many very fine, fine, medium, and coarse roots; few very fine irregular pores; 5 percent paragravel; very strongly acid (pH 4.8); clear smooth boundary.

AB—10 to 18 inches; dark brown (10YR 3/3) silty clay loam, dark yellowish brown (10YR 4/4) dry; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine, fine, and medium and common coarse roots; few very fine and fine and common coarse tubular pores; 5 percent paragravel; very strongly acid (pH 4.8); gradual smooth boundary.

Bw1—18 to 28 inches; dark yellowish brown (10YR 3/4) silty clay loam, dark yellowish brown (10YR 4/4) dry; moderate fine subangular blocky structure; hard, friable, slightly sticky and moderately plastic; many very fine, fine, and medium and common coarse roots; few very fine and fine and common coarse tubular pores; 5 percent paragravel; very strongly acid (pH 4.8); clear broken boundary.

Bw2—28 to 41 inches; dark yellowish brown (10YR 4/4) silty clay loam, yellowish brown (10YR 5/4) dry; moderate fine and very fine subangular blocky structure; hard, friable, moderately sticky and moderately plastic; common very fine, fine, and medium and few coarse roots; common fine and coarse tubular pores; 10 percent paragravel; very strongly acid (pH 4.6); gradual smooth boundary.

Bw3—41 to 58 inches; dark yellowish brown (10YR 4/6) extremely paragravelly silty clay loam, yellowish brown (10YR 5/6) dry; moderate fine and very fine subangular blocky structure; hard, friable, moderately sticky and moderately plastic; few very fine irregular pores; 55 percent paragravel and 10 percent paracobbles; very strongly acid (pH 4.6); gradual smooth boundary.

Cr—58 inches; light olive brown (2.5Y 5/6), fractured, soft siltstone.

Typical Pedon Location

Map unit in which located: Munsoncreek-Templeton medial silt loams, 30 to 60 percent slopes

Location in survey area: In an area of forestland about 5 miles south of Tillamook, Oregon; about 600 feet north and 600 feet west of the southeast corner of section 19, T. 2 S., R. 9 W.

Range in Characteristics

Profile

Depth to bedrock—40 to 60 inches
Thickness of umbric epipedon—15 to 35 inches
Hue—10YR or 7.5YR
Reaction—very strongly acid throughout

A horizon

Value—2 or 3 moist, 3 to 5 dry
Chroma—2 or 3 moist or dry
Texture—medial silt loam
Content of clay—18 to 25 percent (apparent, by field estimates)
Content of rock and pararock fragments—0 to 15 percent gravel and 0 to 15 percent paragravel
Consistence—weakly smeary or moderately smeary

AB horizon

Value—3 moist, 3 to 5 dry
Chroma—2 or 3 moist or dry

Texture—silty clay loam or silt loam
Content of clay—25 to 35 percent
Content of rock and pararock fragments—0 to 15 percent gravel and 0 to 15 percent paragravel

Bw1 horizon
Value—3 to 5 moist, 4 to 6 dry
Chroma—3 or 4 moist, 4 to 6 dry
Texture—silty clay loam, silty clay, paragravelly silty clay loam, or paragravelly silty clay
Content of clay—35 to 45 percent (by field estimates)
Content of rock and pararock fragments—0 to 15 percent gravel and 0 to 30 percent paragravel

Bw2 and Bw3 horizons
Value—3 to 5 moist, 4 to 6 dry
Chroma—4 to 6 moist or dry
Texture—silty clay loam, silty clay, paragravelly silty clay loam, paragravelly silty clay, very paragravelly silty clay loam, or extremely paragravelly silty clay loam
Content of clay—35 to 45 percent
Content of rock and pararock fragments—0 to 15 percent gravel, 0 to 75 percent paragravel, and
0 to 15 percent paracobbles

Murtip Series

Depth class: Deep
Drainage class: Well drained
Landform: Mountains
Parent material: Colluvium and/or residuum derived from igneous rock and tuff, and colluvium over residuum derived from tuff in some areas
Slope range: 3 to 90 percent
Elevation: 1,800 to 3,000 feet
Mean annual precipitation: 100 to 130 inches
Mean annual air temperature: 42 to 46 degrees F
Frost-free period: 60 to 100 days

Taxonomic classification: Medial, ferrihydritic, frigid Alic Hapludands

Typical Pedon

Oi—0 to 1 inch; slightly decomposed plant material; abrupt smooth boundary.
A1—1 to 7 inches; dark brown (7.5YR 3/2) medial loam, brown (10YR 4/3) dry; moderate fine and very fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; moderately smeary; many very fine roots; many fine and very fine irregular pores; 25 percent iron-manganese concretions 0.5 to 2.0 millimeters in size; 10 percent gravel; very strongly acid (pH 5.0); clear wavy boundary.
A2—7 to 14 inches; dark brown (7.5YR 3/2) medial loam, brown (10YR 5/3) dry; moderate fine and very fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; moderately smeary; many very fine and common fine roots; many fine and very fine irregular pores; 20 percent iron-manganese concretions 0.5 to 2.0 millimeters in size; 5 percent gravel; very strongly acid (pH 5.0); clear wavy boundary.
Bw1—14 to 24 inches; dark brown (7.5YR 3/4) medial loam, yellowish brown (10YR 5/4) dry; moderate very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; many very fine, common fine,

and few coarse roots; many fine and very fine irregular pores; 15 percent iron-manganese concretions 0.5 to 2.0 millimeters in size; 5 percent gravel; very strongly acid (pH 5.0); gradual wavy boundary.

Bw2—24 to 43 inches; brown (10YR 4/4) medial loam, light yellowish brown (10YR 6/4) dry; moderate fine and very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; common very fine and few fine roots; many very fine tubular pores; 10 percent gravel; very strongly acid (pH 5.0); gradual wavy boundary.

BC—43 to 50 inches; brown (10YR 4/4) gravelly medial loam, light yellowish brown (10YR 6/4) dry; weak fine and very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; common very fine and few fine roots; common very fine tubular pores; 20 percent gravel and 10 percent paragravel; very strongly acid (pH 5.0); clear wavy boundary.

Cr—50 inches; fractured, partially weathered volcanic rock.

Typical Pedon Location

Map unit in which located: Murtip-Caterl-Laderly complex, 5 to 30 percent slopes

Location in survey area: In an area of forestland about 1.5 miles north of Giveout Mountain; about 950 feet west and 600 feet south of the northeast corner of section 16, T. 3 N., R. 6 W.

Range in Characteristics

Profile

Depth to bedrock—40 to 60 inches

Thickness of umbric epipedon—10 to 20 inches

Hue—10YR to 7.5YR

Reaction—very strongly acid or strongly acid

Consistence—weakly smeary or moderately smeary throughout

A horizon

Value—2 or 3 moist, 3 to 5 dry

Chroma—2 or 3 moist or dry

Texture—medial loam in the Murtip soils; cobbly medial loam in the Murtip soils, clayey

Content of clay—12 to 20 percent (apparent, by field estimates) in the Murtip soils; 20 to 25 percent (apparent, by field estimates) in the Murtip soils, clayey

Content of rock and pararock fragments—0 to 10 percent basalt gravel and 0 to 10 percent paragravel in the Murtip soils; 0 to 10 percent gravel, 15 to 20 percent cobbles, and 0 to 10 percent paragravel in the Murtip soils, clayey

Bw horizon

Value—3 to 5 moist, 4 to 6 dry

Chroma—4 to 6 moist or dry

Texture—medial loam, medial clay loam, gravelly medial loam, or paragravelly medial loam in the Murtip soils; medial clay loam, medial loam, gravelly medial clay loam, gravelly medial loam, cobbly medial clay loam, or cobbly medial loam in the Murtip soils, clayey; and clay loam, cobbly clay loam, or gravelly clay loam in the Murtip soils, clayey, below a depth of 40 inches

Content of clay—18 to 30 percent (apparent, by field estimates) in the Murtip soils; 35 to 40 percent (apparent, by field estimates) in the Murtip soils, clayey, below a depth of 40 inches

Content of rock and pararock fragments—0 to 30 percent gravel, 0 to 5 percent cobbles, and 0 to 25 percent paragravel in the Murtip soils; 0 to 30 percent gravel, 0 to 30 percent cobbles, and 0 to 25 percent basalt paragravel in the Murtip soils, clayey

BC horizon, where present
Value—4 or 5 moist, 4 to 6 dry
Chroma—4 to 6 moist or dry
Texture—gravelly medial loam, gravelly medial clay loam, very gravelly medial loam, or very gravelly medial clay loam
Content of clay—18 to 30 percent (apparent, by field estimates)
Content of rock and pararock fragments—15 to 55 percent gravel, 0 to 15 percent cobbles, and 0 to 50 percent basalt paragravel

Mutt Series

Depth class: Moderately deep
Drainage class: Well drained
Landform: Mountains
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 5 to 30 percent
Elevation: 1,800 to 3,000 feet
Mean annual precipitation: 100 to 130 inches
Mean annual air temperature: 42 to 46 degrees F
Frost-free period: 60 to 100 days

Taxonomic classification: Fine-silty, isotic, frigid Andic Dystrudepts

Typical Pedon

A thin discontinuous lens of Mount St Helens ash is between the Oi and A1 horizons.

Oi—0 to 1 inch; slightly decomposed plant material; abrupt smooth boundary.
A1—1 to 4 inches; dark brown (7.5YR 3/2) medial silt loam, brown (10YR 5/3) dry; moderate very fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; weakly smeary; many very fine, fine, and medium roots; many very fine and fine irregular pores; 15 percent iron-manganese concretions that are 1 to 5 millimeters in size; 5 percent basalt gravel; very strongly acid (pH 5.0); clear smooth boundary.
A2—4 to 13 inches; dark brown (7.5YR 3/3) medial silt loam, yellowish brown (10YR 5/4) dry; moderate very fine and fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; weakly smeary; many very fine and common fine and medium roots; many very fine and fine irregular pores; 10 percent iron-manganese concretions that are 1 to 5 millimeters in size; 2 percent basalt gravel; very strongly acid (pH 5.0); clear smooth boundary.
Bw—13 to 25 inches; dark yellowish brown (10YR 4/4) silty clay loam, yellowish brown (10YR 5/6) dry; moderate fine and medium subangular blocky structure; slightly hard, friable, moderately sticky and slightly plastic; common very fine and few fine and medium roots; many very fine and fine tubular pores; 2 percent basalt gravel; 5 percent siltstone pararock fragments; very strongly acid (pH 5.0); clear wavy boundary.
Cr—25 inches; fractured, partially weathered siltstone.

Typical Pedon Location

Map unit in which located: McMille-Mutt medial silt loams, 5 to 30 percent slopes
Location in survey area: In an area of forestland about 1.5 miles northeast of Dovre Peak; about 2,200 feet west and 500 feet north of the southeast corner of section 1, T. 3 S., R. 7 W.

Range in Characteristics

Profile
Depth to bedrock—20 to 40 inches
Thickness of umbric epipedon—10 to 20 inches
Hue—10YR or 7.5YR
Reaction—very strongly acid or strongly acid

A1 horizon
Value—2 or 3 moist, 4 or 5 dry
Chroma—2 or 3 moist, 3 or 4 dry
Texture—medial silt loam
Content of clay—18 to 25 percent (apparent, by field estimates)
Content of rock and pararock fragments—0 to 10 percent gravel, 0 to 10 percent cobbles, and 0 to 10 percent paragravel
Consistence—weakly smeary or moderately smeary

A2 horizon
Value—2 or 3 moist, 4 or 5 dry
Chroma—2 or 3 moist, 3 or 4 dry
Texture—medial silt loam, silt loam, or paragravelly silt loam
Content of clay—18 to 27 percent (apparent, by field estimates)
Content of rock and pararock fragments—0 to 10 percent gravel, 0 to 10 percent cobbles, and 0 to 25 percent paragravel
Consistence—weakly smeary or moderately smeary

Bw horizon
Value—3 to 5 moist, 4 to 6 dry
Chroma—4 to 6 moist or dry
Texture—silty clay loam, silt loam, paragravelly silty clay loam, or very paragravelly silt loam
Content of clay—25 to 34 percent
Content of rock and pararock fragments—0 to 10 percent gravel, 0 to 10 percent cobbles, and 0 to 60 percent paragravel

Necanicum Series

Depth class: Very deep
Drainage class: Well drained
Landform: Mountains
Parent material: Colluvium derived from igneous rock and/or tuff
Slope range: 5 to 90 percent
Elevation: 50 to 1,800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees
Frost-free period: 120 to 210 days

Taxonomic classification: Medial-skeletal, ferrihydritic, isomesic Typic Fulvudands

Typical Pedon

Oi—0 to 1 inch; slightly decomposed plant material; abrupt smooth boundary.
A1—1 to 10 inches; very dark brown (7.5YR 2.5/2) very gravelly medial loam, dark brown (10YR 3/3) dry; moderate very fine subangular blocky structure parting to moderate fine granular; slightly hard, friable, slightly sticky and slightly plastic; moderately smeary; many very fine, fine, and medium and common coarse roots;

few very fine irregular pores; 40 percent gravel and 5 percent cobbles; very strongly acid (pH 5.0); clear wavy boundary.

A2—10 to 18 inches; very dark brown (7.5YR 2.5/2) very gravelly medial loam, dark brown (10YR 3/3) dry; moderate very fine and fine subangular blocky structure parting to weak fine granular; slightly hard, very friable, slightly sticky and slightly plastic; moderately smeary; many very fine and fine and common medium roots; few fine irregular pores; 30 percent gravel, 5 percent cobbles, and 5 percent stones; very strongly acid (pH 4.8); gradual wavy boundary.

Bw1—18 to 27 inches; dark brown (7.5YR 3/3) very gravelly medial loam, brown (10YR 4/3) dry; moderate fine and very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; moderately smeary; common very fine and fine and few medium and coarse roots; few very fine tubular pores; 35 percent gravel, 5 percent cobbles, and 5 percent stones; very strongly acid (pH 4.8); clear wavy boundary.

Bw2—27 to 49 inches; dark brown (7.5YR 3/3) extremely cobbly medial loam, brown (10YR 4/4) dry; moderate very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; moderately smeary; common very fine and few medium roots; few very fine irregular pores; 35 percent gravel, 25 percent cobbles, and 5 percent stones; very strongly acid (pH 4.8); gradual wavy boundary.

Bw3—49 to 71 inches; dark brown (7.5YR 3/3) extremely cobbly medial loam, brown (10YR 4/4) dry; moderate very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; few very fine roots; few very fine irregular pores; 40 percent gravel, 30 percent cobbles, and 5 percent stones; strongly acid (pH 5.2).

Typical Pedon Location

Map unit in which located: Necanicum-Ascar-Klootchie complex, 60 to 90 percent slopes (fig. 117)

Location in survey area: In an area of forestland about 6 miles east of Tillamook, Oregon; about 700 feet south and 1,400 feet west of the northeast corner of section 19, T. 1 S., R. 8 W.

Range in Characteristics

Profile

Depth to bedrock—more than 60 inches
Thickness of umbric epipedon—17 to 20 inches or more
Content of rock and pararock fragments in the particle-size control section—35 to 85 percent
Hue—10YR or 7.5YR
Reaction—very strongly acid or strongly acid
Consistence—weakly smeary or moderately smeary throughout

A horizon

Value—2 or 3 moist, 3 to 5 dry
Chroma—2 or 3 moist, 3 or 4 dry
Texture—very gravelly medial loam
Content of clay—15 to 25 percent (apparent, by field estimates)
Content of rock fragments—30 to 60 percent gravel, 0 to 10 percent cobbles, and 0 to 5 percent stones

Bw horizon

Value—3 or 4 moist, 4 to 6 dry
Chroma—3 or 4 moist, 3 to 6 dry

Figure 117.—Typical profile of Necanicum very gravelly medial loam in an area of Necanicum-Ascar-Klootchie complex, 60 to 90 percent slopes.

Texture—very gravelly medial loam, very cobbly medial loam, extremely gravelly medial loam, or extremely cobbly medial loam
Content of clay—18 to 27 percent (apparent, by field estimates)
Content of rock and pararock fragments—20 to 65 percent gravel, 0 to 50 percent cobbles, 0 to 10 percent stones, and 0 to 25 percent paragravel

Nehalem Series

Depth class: Very deep
Drainage class: Well drained
Landform: Flood plains
Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 0 to 3 percent
Elevation: 10 to 200 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 300 days

Taxonomic classification: Fine-silty, mixed, superactive, isomesic Fluventic Humic Dystrudepts

Typical Pedon

Ap—0 to 9 inches; very dark grayish brown (10YR 3/2) silt loam, brown (10YR 5/3) dry; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine roots; many very fine tubular pores; moderately acid (pH 5.8); clear smooth boundary.

A—9 to 16 inches; dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; moderate fine and very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine roots; many very fine tubular pores; moderately acid (pH 5.8); gradual smooth boundary.
Bw—16 to 48 inches; dark brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine roots; many very fine tubular pores; moderately acid (pH 6.0); gradual smooth boundary.
BC—48 to 60 inches; dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; weak fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; many very fine tubular pores; moderately acid (pH 6.0).

Typical Pedon Location

Map unit in which located: Nehalem silt loam, 0 to 3 percent slopes
Location in survey area: In an area of pastureland about 2.8 miles north of Tillamook, Oregon; about 2,200 feet north and 1,700 feet west of the southeast corner of section 12, T. 1 S., R. 10 W.

Range in Characteristics

Profile
Depth to bedrock—more than 60 inches
Thickness of umbric epipedon—10 to 20 inches thick
Depth to redoximorphic features—below a depth of 40 inches in some pedons
Reaction: Natural phase—strongly acid or moderately acid; protected phase—very strongly acid throughout
Other feature—thin lenses of moderately coarse textured material in upper 40 inches in some pedons

A horizon
Value—2 or 3 moist, 4 or 5 dry
Chroma—2 or 3 moist or dry
Texture—silt loam
Content of clay—18 to 25 percent

Bw horizon
Value—3 or 4 moist, 5 or 6 dry
Chroma—3 or 4 moist or dry
Texture—silt loam or silty clay loam
Content of clay—18 to 30 percent

BC and C horizons, where present
Value—3 or 4 moist, 5 or 6 dry
Chroma—3 or 4 moist or dry
Texture—silt loam, loam, silty clay loam, very fine sandy loam, or fine sandy loam
Content of clay—12 to 30 percent clay; 12 to 18 percent below a depth of 40 inches
Other feature—very fine sandy loam or fine sandy loam

Neotsu Series

Depth class: Moderately deep
Drainage class: Well drained
Landform: Hills and mountains
Parent material: Colluvium and residuum derived from igneous rock
Slope range: 3 to 90 percent

Elevation: 50 to 1,800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Taxonomic classification: Medial, ferrihydritic, isomesic Typic Fulvudands

Typical Pedon

Oi—0 to 3 inches; slightly decomposed plant material; abrupt smooth boundary.
A1—3 to 9 inches; very dark brown (7.5YR 2.5/2) medial loam, very dark grayish brown (10YR 3/2) dry; moderate very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; many very fine, common fine, and few coarse roots throughout; many very fine irregular pores; 5 percent gravel and 5 percent paragravel; very strongly acid (pH 4.6); clear smooth boundary.
A2—9 to 20 inches; dark brown (7.5YR 3/2) medial loam, dark brown (10YR 3/3) dry; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; many very fine and common fine roots throughout; many very fine irregular pores; 5 percent gravel, 5 percent cobbles, and 5 percent paragravel; very strongly acid (pH 4.6); clear smooth boundary.
Bw—20 to 32 inches; dark brown (7.5YR 3/4) cobbly medial loam, yellowish brown (10YR 5/4) dry; moderate fine and very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; moderately smeary; common very fine and medium and few coarse roots throughout; many very fine irregular pores; 5 percent gravel, 15 percent cobbles, and 10 percent paragravel; very strongly acid (pH 4.8); abrupt wavy boundary.
Cr—32 inches; moderately weathered basaltic sandstone.

Typical Pedon Location

Map unit in which located: Neotsu-Salander medial loams, 5 to 30 percent slopes
Location in survey area: In an area of managed forestland about 1.6 miles northeast of Neskowin, Oregon; about 2,300 feet north and 450 feet east of the southwest corner of section 19, T. 5 S., R. 10 W.

Range in Characteristics

Profile
Depth to bedrock—20 to 40 inches
Thickness of umbric epipedon—12 to 20 inches
Hue—10YR to 7.5YR
Reaction—extremely acid or very strongly acid
Consistence—weakly smeary or moderately smeary throughout

A horizon
Value—2 or 3 moist, 3 to 5 dry
Chroma—2 or 3 moist or dry
Texture—medial loam
Content of clay—15 to 20 percent (apparent, by field estimates)
Content of rock and pararock fragments—0 to 15 percent gravel, 0 to 5 percent cobbles, and 0 to 10 percent paragravel

Bw horizon
Value—3 or 4 moist, 4 to 6 dry
Chroma—4 to 6 moist or dry
Texture—cobbly medial loam, medial loam, medial clay loam, gravelly medial loam, gravelly medial clay loam, or cobbly medial clay loam

Content of clay—18 to 30 percent (apparent, by field estimates)
Content of rock and pararock fragments—0 to 25 percent gravel, 0 to 20 percent cobbles, 0 to 15 percent paragravel, and 0 to 5 percent paracobbles

BC horizon, where present
Value—3 or 4 moist, 4 to 6 dry
Chroma—4 to 6 moist or dry
Texture—gravelly medial loam or cobbly medial loam
Content of clay—18 to 25 percent (apparent, by field estimates)
Content of rock and pararock fragments—15 to 35 percent gravel, 0 to 20 percent cobbles, 15 to 40 percent paragravel, and 0 to 5 percent paracobbles

Neskowin Series

Depth class: Moderately deep
Drainage class: Well drained
Position on landscape: Hills and mountains
Parent material: Colluvium and residuum derived from igneous rock
Slope range: 30 to 100 percent
Elevation: 50 to 1,800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Taxonomic classification: Medial, ferrihydritic, isomesic Typic Fulvudands

Typical Pedon

Oi—0 to 2 inches; slightly decomposed plant material; abrupt smooth boundary.
A—2 to 8 inches; black (10YR 2/1) medial loam, very dark grayish brown (10YR 3/2) dry; moderate very fine and fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; many very fine roots throughout; many very fine irregular pores; 10 percent gravel; very strongly acid (pH 4.6); clear wavy boundary.
Bw1—8 to 15 inches; very dark brown (10YR 2/2) medial loam, dark brown (10YR 3/3) dry; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; common fine and medium roots throughout; many very fine irregular pores; 10 percent gravel; very strongly acid (pH 4.6); clear wavy boundary.
Bw2—15 to 28 inches; very dark grayish brown and dark brown (10YR 3/2 and 3/3) gravelly medial loam, brown (10YR 4/3) dry; moderate fine and very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; moderately smeary; common fine and medium roots throughout; many very fine irregular pores; 25 percent gravel; very strongly acid (pH 4.8); abrupt wavy boundary.
R—28 inches; basalt.

Typical Pedon Location

Map unit in which located: Salander-Necanicum-Neskowin complex, 60 to 90 percent slopes
Location in survey area: In an area of forestland about 2.7 miles south of Neskowin, Oregon; about 1,100 feet west and 800 feet south of the northeast corner of section 14, T. 6 S., R. 11 W.

Range in Characteristics

Profile
Depth to bedrock—20 to 40 inches
Thickness of umbric epipedon—20 to 40 inches
Content of rock and pararock fragments in the particle-size control section—less than 35 percent total, by volume
Hue—10YR to 7.5YR
Reaction—very strongly acid throughout
Consistence—weakly smeary or moderately smeary throughout

A horizon
Value—2 or 3 moist or dry
Chroma—1 to 3 moist or dry
Texture—medial loam
Content of clay—18 to 25 percent (apparent, by field estimates)
Content of rock and pararock fragments—0 to 10 percent gravel, 0 to 10 percent cobbles, and 0 to 10 percent paragravel

Bw1 and Bw2 horizons
Value—2 to 4 moist, 4 or 5 dry
Chroma—2 or 3 moist, 2 to 4 dry
Texture—medial loam, gravelly medial loam, cobbly medial loam, medial clay loam, gravelly medial clay loam, or cobbly medial clay loam
Content of clay—18 to 30 percent clay (apparent, by field estimates)
Content of rock and pararock fragments—0 to 25 percent gravel, 0 to 15 percent cobbles, and 0 to 10 percent paragravel

Nestucca Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Landform: Flood plains
Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 0 to 3 percent
Elevation: 10 to 200 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Taxonomic classification: Fine-silty, mixed, superactive, acid, isomesic Fluvaquentic Humaquepts

Typical Pedon

Ap—0 to 6 inches; dark brown (10YR 3/3) silt loam, brown (10YR 4/3) dry; moderate very fine granular structure; soft, very friable, slightly sticky and slightly plastic; many very fine roots; many very fine tubular pores; strongly acid (pH 5.2); clear smooth boundary.

A—6 to 14 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine granular structure; soft, friable, slightly sticky and slightly plastic; many very fine roots; many very fine tubular pores; strongly acid (pH 5.2); clear smooth boundary.

Bw—14 to 41 inches; dark grayish brown (10YR 4/2) silty clay loam, light brownish gray (10YR 6/2) dry; moderate fine subangular blocky structure; slightly hard, firm, moderately sticky and moderately plastic; common very fine roots; common very fine tubular pores; many medium distinct reddish brown (5YR 4/4) masses of iron accumulation; very strongly acid (pH 5.0); gradual smooth boundary.

C—41 to 60 inches; dark gray (10YR 4/1) silty clay, light brownish gray (10YR 6/2) dry; massive; hard, firm, very sticky and very plastic; few roots; few very fine pores; many coarse prominent dark reddish brown (5YR 3/4) masses of iron accumulation; very strongly acid (pH 4.8).

Typical Pedon Location

Map unit in which located: Nestucca silt loam, 0 to 3 percent slopes

Location in survey area: In an area of pastureland about 0.6 mile south of Johnson Bridge across the Trask River; about 700 feet east and 700 feet south of the northwest corner of section 3, T. 2 S., R. 9 W.

Range in Characteristics

Profile

Depth to bedrock—more than 60 inches

Thickness of umbric epipedon—14 to 20 inches

Depth to redoximorphic features—14 to 60 inches, with chroma of 1 when moist below a depth of 30 inches

Other feature—moderately coarse textured material in some pedons

Ap horizon

Value—2 or 3 moist, 4 or 5 dry

Chroma—1 to 3 moist or dry

Texture—silt loam

Content of clay—20 to 25 percent

Reaction—strongly acid

A horizon

Value—2 or 3 moist, 4 or 5 dry

Chroma—1 to 3 moist or dry

Texture—silt loam

Content of clay—20 to 25 percent

Reaction—strongly acid

Bw and Bg horizons, where present

Hue—10YR to 5Y

Value—3 to 5 moist, 5 to 7 dry

Chroma—1 or 2 moist or dry

Texture—silty clay loam or silt loam

Content of clay—25 to 35 percent

Characteristics of redoximorphic features—distinct or prominent

Reaction—very strongly acid or strongly acid

Other feature—lenses of very fine sandy loam or fine sandy loam in some pedons

C and Cg horizons, where present

Hue—10YR to 5B

Value—2.5 to 5 moist, 3 to 7 dry

Chroma—neutral to 2 moist or dry

Texture—silty clay or silty clay loam

Content of clay—27 to 45 percent

Characteristics of redoximorphic features—distinct or prominent

Reaction—very strongly acid or strongly acid

Other feature—stratified sandy loam below a depth of 40 inches in some pedons

Netarts Series

Depth class: Very deep
Drainage class: Well drained
Landform: Stable sand dunes on marine terraces
Parent material: Eolian sand
Slope range: 0 to 60 percent
Elevation: 20 to 300 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 180 to 300 days

Taxonomic classification: Sandy, isotic, isomesic Entic Haplorthods

Typical Pedon

Oi—0 to 2 inches; slightly decomposed plant material; abrupt smooth boundary.

A—2 to 5 inches; black (10YR 2/1) fine sandy loam, very dark brown (10YR 2/2) dry; many gray and light brownish gray clean sand grains; single grain; loose, nonsticky and nonplastic; weakly smeary; many very fine, fine, medium, and coarse roots; many very fine interstitial pores; extremely acid (pH 4.4); abrupt wavy boundary.

E—5 to 9 inches; mixed dark grayish brown (2.5Y 4/2), grayish brown (2.5Y 5/2), light brownish gray (2.5Y 6/2), and light gray (10YR 6/1) loamy fine sand, grayish brown (2.5Y 5/2), light brownish gray (2.5Y 6/2), light gray (2.5Y 7/2 and 10YR 7/1) dry; single grain; loose, nonsticky and nonplastic; many very fine, fine, medium, and coarse roots; many very fine interstitial pores; very strongly acid (pH 4.8); clear wavy boundary.

ABs—9 to 15 inches; mixed grayish brown (2.5Y 5/2), light brownish gray (2.5Y 6/2), and light yellowish brown (2.5Y 6/4) loamy fine sand, light brownish gray (2.5Y 6/2), light gray (2.5Y 7/2), and very pale brown (2.5Y 7/4) dry; common coarse dark brown (7.5YR 3/2) humus-stained patches; single grain; loose, nonsticky and nonplastic; common very fine, fine, medium, and coarse roots; many very fine interstitial pores; 1 percent medium dark brown (7.5YR 3/4) very weakly iron-cemented nodules; strongly acid (pH 5.2); clear wavy boundary.

Bs1—15 to 19 inches; variegated dark brown (7.5YR 3/2), brown (7.5YR 4/4), light brownish gray (2.5Y 6/2), and light yellowish brown (2.5Y 6/4) fine sand, brown (7.5YR 4/3), strong brown (7.5YR 4/6), light gray (2.5Y 7/2), and pale yellow (2.5Y 7/4) dry; single grain; loose, nonsticky and nonplastic; few fine and medium roots; many very fine interstitial pores; intermittent reddish brown (5YR 4/4) weakly iron-cemented lenses; strongly acid (pH 5.2); clear wavy boundary.

Bs2—19 to 37 inches; variegated reddish brown (5YR 4/4), dark brown (7.5YR 3/2), and grayish brown (2.5Y 5/2) fine sand, light reddish brown (5YR 6/4), brown (7.5YR 5/2), and light brownish gray (2.5Y 6/2) dry; massive; weakly cemented; hard, very firm; few fine and medium roots in upper part; 5 percent moderately iron-cemented nodules and fragments; strongly acid (pH 5.3); gradual wavy boundary.

BCs—37 to 54 inches; variegated yellowish brown (10YR 5/4), grayish brown (2.5YR 5/2), and light brownish gray (2.5Y 6/2) fine sand, light yellowish brown (10YR 6/4) and light brownish gray (2.5Y 6/2) dry; massive; soft, very friable, nonsticky and nonplastic; 1 percent weakly iron-cemented fragments and nodules; strongly acid (pH 5.3); gradual wavy boundary.

C—54 to 67 inches; variegated dark grayish brown (2.5Y 4/2), grayish brown (2.5Y 5/2), light yellowish brown (2.5Y 6/4), and pale yellow (2.5Y 7/4) fine sand, grayish brown (2.5Y 5/2), light brownish gray (2.5Y 6/2), pale yellow (2.5Y 7/4), and yellow (2.5Y 7/6) dry; single grain; loose, nonsticky and nonplastic; strongly acid (pH 5.4).

Typical Pedon Location

Map unit in which located: Netarts fine sandy loam, 5 to 30 percent slopes (fig. 118)
Location in survey area: In an area of forestland about 0.8 mile northwest of Netarts, Oregon; about 2,350 feet east and 100 feet south of the northwest corner of section 31, T. 1 S., R. 10 W.

Range in Characteristics

Profile
Depth to bedrock—more than 60 inches
Other feature—colors commonly mixed or variegated below the A horizon

A horizon, where present
Hue—10YR or 7.5YR
Value—2 or 3 moist or dry
Chroma—1 or 2 moist or dry
Texture—fine sandy loam
Content of clay—1 to 8 percent
Reaction—extremely acid or very strongly acid

Figure 118.—Typical profile of Netarts fine sandy loam, 5 to 30 percent slopes.

E horizon
Hue—2.5Y to 10YR
Value—4 to 6 moist, 4 to 7 dry
Chroma—1 or 2 moist or dry
Texture—fine sand or loamy fine sand
Content of clay—1 to 5 percent
Reaction—extremely acid to strongly acid

ABs horizon, where present
Hue—2.5Y or 10YR
Value—5 or 6 moist, 5 to 7 dry
Chroma—2 to 4 moist or dry
Texture—loamy fine sand or fine sand
Content of clay—1 to 5 percent
Reaction—extremely acid to strongly acid
Other feature—0 to 10 percent very weakly cemented or weakly cemented iron-rich nodules or fragments

Bs horizon
Hue—2.5Y to 5YR
Value—3 to 6 moist, 4 to 8 dry
Chroma—2 to 6 moist or dry
Texture—loamy fine sand, sand, or fine sand
Content of clay—1 to 5 percent
Reaction—very strongly acid to moderately acid
Cementation—varies from thin, stratified layers to thick, massive layers that are very weakly cemented or weakly cemented; intermittent moderately cemented lenses in some pedons
Other feature—0 to 40 percent very weakly cemented to moderately cemented iron-rich nodules or fragments

BCs horizon, where present
Hue—2.5Y or 10YR
Value—3 to 7 moist, 4 to 7 dry
Chroma—2 to 6 moist or dry
Texture—loamy fine sand, sand, or fine sand
Content of clay—1 to 5 percent
Reaction—very strongly acid to moderately acid
Cementation—intermittent very weakly cemented or weakly cemented lenses
Other feature—0 to 30 percent very weakly cemented to moderately cemented iron-rich nodules or fragments

C horizon
Hue—2.5Y or 10YR
Value—5 or 6 moist, 6 or 7 dry
Chroma—2 to 4 moist or dry
Texture—fine sand or sand
Content of clay—1 to 5 percent
Reaction—strongly acid or moderately acid

Newanna Series

Depth class: Moderately deep
Drainage class: Well drained
Landform: Mountains
Parent material: Colluvium derived from igneous rock

Slope range: 5 to 90 percent
Elevation: 2,800 to 3,700 feet
Mean annual precipitation: 130 to 150 inches
Mean annual air temperature: 39 to 42 degrees F
Frost-free period: 40 to 80 days

Taxonomic classification: Medial-skeletal, ferrihydritic Typic Fulvicryands

Typical Pedon

Oi—0 to 1 inch; slightly decomposed plant material; abrupt smooth boundary.
A—1 to 11 inches; dark brown (7.5YR 3/2) very cobbly medial loam, brown (7.5YR 4/3) dry; weak very fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; weakly smeary; many very fine and fine roots; few very fine irregular pores; 15 percent gravel and 20 percent cobbles; strongly acid (pH 5.5); clear smooth boundary.
Bw1—11 to 32 inches; dark brown (7.5YR 3/4) very cobbly medial loam, light yellowish brown (10YR 6/4) dry; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; moderately smeary; common very fine and fine and few medium and coarse roots; common fine irregular pores; 30 percent gravel and 25 percent cobbles; strongly acid (pH 5.4); clear smooth boundary.
Bw2—32 to 38 inches; brown (7.5YR 4/4) very cobbly medial loam, light yellowish brown (10YR 6/4) dry; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; moderately smeary; few fine and medium roots; common fine irregular pores; 25 percent gravel and 30 percent cobbles; very strongly acid (pH 5.0); clear smooth boundary.
R—38 inches; fractured diabase.

Typical Pedon Location

Map unit in which located: Sevencedars-Newanna-Woodspoint complex, 5 to 30 percent slopes
Location in survey area: In an area of forestland about 2 miles southeast of South Fork Camp; about 300 feet north and 300 feet east of the southwest corner of section 16, T. 1 N., R. 6 W.

Range in Characteristics

Profile
Depth to bedrock—20 to 40 inches
Thickness of umbric epipedon—10 to 20 inches
Content of rock fragments in particle-size control section—35 to 75 percent
Hue—10YR or 7.5YR
Reaction—very strongly acid or strongly acid
Consistence—weakly smeary or moderately smeary throughout

A horizon
Value—2 or 3 moist, 4 or 5 dry
Chroma—2 or 3 moist, 3 dry
Texture—very cobbly medial loam
Content of clay—10 to 25 percent (apparent, by field estimates)
Content of rock fragments—15 to 30 percent gravel and 15 to 25 percent cobbles

Bw horizon
Value—3 or 4 moist, 4 to 6 dry
Chroma—4 to 6 moist or dry
Texture—very cobbly medial loam, very gravelly medial loam, or extremely cobbly medial loam

Content of clay—10 to 25 percent (apparent, by field estimates)
Content of rock fragments—20 to 45 percent gravel and 10 to 30 percent cobbles

Oxyaquic Fulvudands

Depth class: Very deep
Drainage class: Moderately well drained
Landform: Flood plains of narrow coastal valleys
Parent material: Alluvium derived from igneous rock
Slope range: 0 to 3 percent
Elevation: 100 to 600 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Taxonomic classification: Isomesic Oxyaquic Fulvudands

Reference Pedon

A—0 to 19 inches; very dark brown (7.5YR 2.5/2) medial silt loam, dark brown (7.5YR 3/3) dry; weak very fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; weakly smeary; many very fine, fine, and medium and common coarse roots; few fine irregular pores; 10 percent gravel; strongly acid (pH 5.2); clear smooth boundary.
2C1—19 to 26 inches; dark brown (7.5YR 3/3) extremely gravelly loamy sand, brown (7.5YR 4/4) dry; weak fine subangular blocky structure; soft, friable, nonsticky and nonplastic; few medium roots; 50 percent gravel and 25 percent cobbles; strongly acid (pH 5.2); clear smooth boundary.
2C2—26 to 60 inches; variegated very dark grayish brown (10YR 3/2), dark brown (7.5YR 3/4), and strong brown (7.5YR 4/6) extremely cobbly loamy sand, brown (10YR 4/3) and yellowish brown (10YR 5/4 and 5/6) dry; single grain; nonsticky and nonplastic; common medium distinct strong brown (7.5YR 5/6 and 5/8) masses of iron accumulation and few medium distinct gray (7.5YR 5/1 and 6/1) iron depletions; 50 percent gravel and 35 percent cobbles; strongly acid (pH 5.2).

Reference Pedon Location

Map unit in which located: Oxyaquic Fulvudands-Typic Fulvudands complex, 0 to 7 percent slopes
Location in survey area: In an area of forestland about 7 miles northeast of Garibaldi, Oregon, on the flood plain of the Miami River; about 1,700 feet south and 2,500 feet west of the northeast corner of section 21, T. 2 N., R. 9 W.

Range in Characteristics

Profile
Depth to bedrock—more than 60 inches
Thickness of umbric epipedon—10 to 20 inches
Depth to strongly contrasting textural stratification—12 to 20 inches
Content of clay in the particle-size control section—15 to 25 percent (apparent, by field estimates) in the A horizon and more than 3 to 18 percent below
Content of rock fragments in the particle-size control section—0 to 15 percent in the A horizon and more than 10 to 85 percent below
Reaction—very strongly acid to moderately acid

Hue—7.5YR or 10YR
Depth to redoximorphic features—24 to 40 inches

A horizon
Value—2 or 3 moist, 2 to 5 dry
Chroma—2 or 3 moist, 2 to 4 dry
Texture—medial silt loam or medial loam
Content of clay—15 to 25 percent (apparent, by field estimates)
Content of rock fragments—0 to 10 percent gravel and 0 to 10 percent cobbles, with 0 to 15 percent total
Consistence—weakly smeary or moderately smeary

2C horizon
Value—3 or 4 moist, 4 or 5 dry
Chroma—2 to 4 moist or dry
Texture—extremely cobbly loamy sand, extremely gravelly loamy sand, loamy sand, sandy loam, very gravelly fine sandy loam, extremely cobbly sandy loam, or gravelly loamy sand
Content of clay—3 to 18 percent
Content of rock fragments—5 to 60 percent gravel, 0 to 35 percent cobbles, and 0 to 10 percent stones, with 10 to 85 percent total

Oxyaquic Hapludands

Depth class: Very deep
Drainage class: Moderately well drained
Landform: Flood plains in narrow interior mountain valleys
Parent material: Alluvium derived from igneous rock
Slope range: 0 to 3 percent
Elevation: 400 to 1,000 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 120 to 210 days

Taxonomic classification: Mesic Oxyaquic Hapludands

Reference Pedon

Oi—0 to 1 inch; slightly decomposed plant material; abrupt smooth boundary.
A—1 to 20 inches; dark brown (7.5YR 3/3) medial silt loam, brown (7.5YR 4/4) dry; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; many very fine, fine, and medium and common coarse roots; few fine irregular pores; strongly acid (pH 5.2); abrupt smooth boundary.
2C—20 to 25 inches; dark brown (7.5YR 3/4) extremely gravelly clay loam, brown (7.5YR 4/4) dry; massive; slightly hard, friable, slightly sticky and slightly plastic; few medium roots; 70 percent gravel and 5 percent cobbles; strongly acid (pH 5.2); abrupt smooth boundary.
3C1—25 to 38 inches; dark brown (7.5YR 3/4) loamy sand, brown (7.5YR 5/4) dry; single grain; nonsticky and nonplastic; few medium distinct strong brown (7.5YR 5/6 and 5/8) masses of iron accumulation; 5 percent gravel; strongly acid (pH 5.2); abrupt smooth boundary.
3C2—38 to 61 inches; mixed dark brown (7.5YR 3/4) and dark grayish brown (10YR 4/2) extremely gravelly loamy sand, brown (7.5YR 5/4) and grayish brown (10YR 5/2) dry; single grain; nonsticky and nonplastic; common medium distinct strong brown (7.5YR 5/6 and 5/8) masses of iron accumulation and few medium distinct

gray (7.5YR 5/1 and 6/1) iron depletions; 65 percent gravel and 20 percent cobbles; strongly acid (pH 5.2).

Reference Pedon Location

Map unit in which located: Oxyaquic Hapludands-Alic Hapludands complex, 0 to 7 percent slopes

Location in survey area: In an area of forestland about 3 miles east of Blaine, Oregon, on the flood plain of Clarence Creek; about 2,200 feet south and 1,100 feet east of the northwest corner of section 2, T. 4 S., R. 8 W.

Range in Characteristics

Profile

Depth to bedrock—more than 60 inches
Thickness of umbric epipedon—10 to 24 inches
Depth to strongly contrasting textural stratification—25 to 61 inches
Content of clay in the particle-size control section—18 to 27 percent (apparent, by field estimates) in the A horizon and more than 3 to 35 percent below
Content of rock fragments in the particle-size control section—0 to 15 percent in the A horizon and more than 5 to 85 percent below
Reaction—strongly acid or moderately acid
Hue—7.5YR or 10YR
Depth to redoximorphic features—20 to 40 inches

A horizon

Value—2 or 3 moist, 3 to 5 dry
Chroma—2 or 3 moist, 3 or 4 dry
Texture—medial silt loam or medial loam
Content of clay—18 to 27 percent (apparent, by field estimates)
Content of rock fragments—0 to 10 percent gravel and 0 to 10 percent cobbles, with 0 to 15 percent total
Consistence—weakly smeary or moderately smeary

2C and 3C1 horizons

Value—3 or 4 moist, 4 or 5 dry
Chroma—3 or 4 moist or dry
Texture—extremely gravelly clay loam, sandy loam, gravelly loamy sand, extremely gravelly loamy sand, extremely cobbly loamy sand, loamy sand, extremely cobbly sandy loam, or very gravelly loamy sand
Content of clay—3 to 35 percent
Content of rock fragments—5 to 75 percent gravel, 0 to 30 percent cobbles, and 0 to 5 percent stones, with 5 to 85 percent total

3C2 horizon

Value—3 or 4 moist, 4 or 5 dry
Chroma—2 to 4 moist or dry
Texture—extremely gravelly loamy sand, extremely cobbly loamy sand, or extremely cobbly sandy loam
Content of clay—3 to 15 percent
Content of rock fragments—45 to 70 percent gravel, 15 to 30 percent cobbles, and 0 to 5 percent stones, with 60 to 85 percent total

Preacher Series

Depth class: Deep
Drainage class: Well drained

Landform: Mountains
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 5 to 60 percent
Elevation: 200 to 2,000 feet
Mean annual precipitation: 80 to 120 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 210 days

Taxonomic classification: Fine-loamy, isotic, mesic Andic Dystrudepts

Typical Pedon

Oi—0 to 2 inches; slightly decomposed plant material; abrupt smooth boundary.
A—2 to 13 inches; dark brown (7.5YR 3/2) medial loam, brown (10YR 5/3) dry; moderate fine and very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; many very fine and fine and few medium and coarse roots; many very fine irregular pores; 5 percent siltstone paragravel; very strongly acid (pH 4.8); clear wavy boundary.
Bw1—13 to 21 inches; dark brown (7.5YR 3/4) clay loam, yellowish brown (10YR 5/4) dry; moderate fine and very fine subangular blocky structure; slightly hard, friable, moderately sticky and slightly plastic; many very fine and fine and few medium and coarse roots; many very fine and common fine tubular pores; 10 percent siltstone paragravel; very strongly acid (pH 4.8); clear wavy boundary.
Bw2—21 to 38 inches; brown (7.5YR 4/4) very paragravelly clay loam, yellowish brown (10YR 5/6) dry; moderate fine and very fine subangular blocky structure; moderately hard, firm, moderately sticky and slightly plastic; many very fine, common fine, and few medium and coarse roots; common fine and very fine tubular pores; 50 percent siltstone paragravel; extremely acid (pH 4.4); gradual wavy boundary.
BC—38 to 52 inches; brown (7.5YR 4/4) extremely paragravelly clay loam, light yellowish brown (10YR 6/4) dry; weak very fine subangular blocky structure; moderately hard, firm, moderately sticky and slightly plastic; few very fine roots; common fine and very fine tubular pores; 75 percent siltstone paragravel; very strongly acid (pH 4.6); clear wavy boundary.
Cr—52 inches; highly fractured, moderately cemented siltstone.

Typical Pedon Location

Map unit in which located: Preacher-Bohannon complex, 5 to 35 percent slopes
Location in survey area: In an area of forestland about 3.3 miles northeast of Mount Hebo; about 2,600 feet north and 600 feet west of the southeast corner of section 16, T. 4 S., R. 8 W.

Range in Characteristics

Profile
Depth to bedrock—40 to 60 inches
Thickness of umbric epipedon—10 to 20 inches
Content of clay in the particle-size control section—20 to 35 percent
Content of rock and pararock fragments in the particle-size control section—0 to 10 percent gravel, 0 to 50 percent paragravel, and 0 to 10 percent paracobbles
Hue—10YR or 7.5YR
Reaction—extremely acid to strongly acid

A horizon
Value—2 or 3 moist, 4 or 5 dry
Chroma—2 or 3 moist or dry
Texture—medial loam

Content of clay—15 to 25 percent (apparent, by field estimates)
Content of rock and pararock fragments—0 to 10 percent gravel, 0 to 10 percent paragravel, and 0 to 5 percent paracobbles
Consistence—weakly smeary or moderately smeary

Bw horizon
Value—3 or 4 moist, 5 or 6 dry
Chroma—4 to 6 moist or dry
Texture—clay loam, loam, paragravelly clay loam, paragravelly loam, very paragravelly clay loam, or very paragravelly loam
Content of clay—20 to 35 percent
Content of rock and pararock fragments—0 to 10 percent gravel, 0 to 50 percent paragravel, and 0 to 10 percent paracobbles

BC and C horizons, where present
Value—4 or 5 moist, 6 or 7 dry
Chroma—4 to 6 moist or dry
Texture—extremely paragravelly clay loam, loam, clay loam, paragravelly loam, paragravelly clay loam, very paragravelly loam, very paragravelly clay loam, or extremely paragravelly loam
Content of clay—18 to 35 percent
Content of rock and pararock fragments—0 to 10 percent gravel, 10 to 75 percent paragravel, and 0 to 15 percent paracobbles

Quillamook Series

Depth class: Very deep
Drainage class: Well drained
Landform: Stream terraces
Parent material: Silty alluvium derived from igneous rock and in some areas, silty alluvium over sandy and gravelly alluvium derived from igneous rock
Slope range: 0 to 15 percent
Elevation: 20 to 200 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Taxonomic classification: Medial, ferrihydritic, isomesic Pachic Melanudands

Typical Pedon

Ap—0 to 9 inches; black (10YR 2/1) medial silt loam, very dark grayish brown (10YR 3/2) dry; moderate fine and very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; many very fine roots; many very fine irregular and tubular pores; about 5 percent rounded gravel; moderately acid (pH 5.6); clear smooth boundary.
A1—9 to 19 inches; dark brown (10YR 2/1) medial silt loam, very dark grayish brown (10YR 3/2) dry; moderate fine and very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; many very fine roots; many very fine irregular and tubular pores; about 5 percent rounded gravel; very strongly acid (pH 4.8); clear smooth boundary.
A2—19 to 27 inches; very dark brown (10YR 2/2) medial silt loam, dark brown (10YR 3/3) dry; moderate fine and very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; common very fine roots; many very fine irregular pores and common very fine and few fine tubular pores; about 5 percent rounded gravel; very strongly acid (pH 4.8); gradual smooth boundary.

Bw1—27 to 39 inches; dark yellowish brown (10YR 3/4) medial silt loam, light yellowish brown (10YR 6/4) dry; moderate fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; moderately smeary; common very fine roots; many very fine irregular pores and common very fine tubular pores; about 10 percent rounded gravel; very strongly acid (pH 4.8); gradual smooth boundary.

Bw2—39 to 47 inches; brown (10YR 4/4) medial silt loam, light yellowish brown (10YR 6/4) dry; moderate fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; moderately smeary; few very fine roots; many very fine irregular pores and common very fine tubular pores; about 10 percent rounded gravel; moderately acid (pH 5.6); abrupt smooth boundary.

2C—47 to 60 inches; very dark grayish brown (10YR 3/2) extremely gravelly loamy coarse sand, brown (10YR 5/3) dry; single grain; loose, nonsticky and nonplastic; about 75 percent rounded gravel and 10 percent rounded cobbles; moderately acid (pH 5.8).

Typical Pedon Location

Map unit in which located: Quillamook complex, 0 to 7 percent slopes (fig. 119)

Location in survey area: In an area of pastureland about 1 mile southwest of Idaville, Oregon; about 1,100 feet west and 900 feet south of the northeast corner of section 12, T. 1 S., R. 10 W.

Range in Characteristics

Profile

Depth to bedrock—more than 60 inches

Thickness of umbric epipedon—20 to 35 inches

Depth to redoximorphic features—below a depth of 40 inches in some pedons

Depth to strongly contrasting textural stratification (gravelly substratum phase)—40 to 60 inches

Reaction—very strongly acid to moderately acid

A horizon

Value—2 or 3 moist (3 moist below a depth of 20 inches, where present); 2 to 5 dry

Chroma—1 to 3 moist or dry (3 moist below a depth of 20 inches, where present)

Texture—medial silt loam

Content of clay—18 to 25 percent (apparent, by field estimates)

Content of rock fragments—0 to 10 percent gravel

Consistence—weakly smeary or moderately smeary

Bw1 horizon

Value—3 to 5 moist, 5 or 6 dry

Chroma—4 to 6 moist or dry

Texture—medial silt loam, medial loam, medial silty clay loam, gravelly medial loam, or gravelly medial silty clay loam

Content of clay—18 to 30 percent (apparent, by field estimates)

Content of rock fragments—0 to 25 percent gravel and 0 to 10 percent cobbles

Consistence—weakly smeary or moderately smeary

Bw2 horizon

Value—3 to 5 moist, 5 or 6 dry

Chroma—4 to 6 moist or dry

Texture—medial silt loam, medial loam, medial silty clay loam, gravelly medial loam, gravelly medial clay loam, cobbly medial loam, or cobbly medial clay loam

Content of clay—18 to 30 percent (apparent, by field estimates)

Figure 119.—Typical profile of Quillamook medial silt loam in an area of Quillamook complex, 0 to 7 percent slopes.

Content of rock fragments—0 to 25 percent gravel and 0 to 25 percent cobbles
Consistence—weakly smeary or moderately smeary

2C horizon, where present
Value—3 to 5 moist, 5 or 6 dry
Chroma—2 to 6 moist or dry
Texture—extremely gravelly loamy coarse sand, extremely gravelly sandy loam, extremely gravelly loamy sand, or extremely cobbly sandy loam

Content of clay—5 to 10 percent
Content of rock fragments—0 to 80 percent gravel and 0 to 30 percent cobbles
Structure—single grain or massive
Cementation—intermittent, very weakly cemented or weakly cemented lenses

Reedsport Series

Depth class: Moderately deep
Drainage class: Well drained
Landform: Mountains
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 3 to 85 percent
Elevation: 50 to 1,800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Taxonomic classification: Fine-loamy, isotic, isomesic Andic Dystrudepts

Typical Pedon

Oi—0 to 2 inches; slightly decomposed plant material; abrupt smooth boundary.

A1—2 to 8 inches; very dark brown (10YR 2/2) paragravelly medial loam, dark grayish brown (10YR 4/2) dry; moderate very fine granular structure; soft, very friable, slightly sticky and slightly plastic; weakly smeary; many fine and very fine roots throughout; many fine irregular pores; 5 percent gravel and 15 percent paragravel; strongly acid (pH 5.1); gradual wavy boundary.

A2—8 to 16 inches; very dark grayish brown (10YR 3/2) paragravelly loam, grayish brown (10YR 5/2) dry; moderate very fine subangular blocky and granular structure; slightly hard, friable, slightly sticky and slightly plastic; common fine and very fine roots throughout; many very fine tubular and irregular pores; 5 percent gravel and 20 percent paragravel; strongly acid (pH 5.1); gradual wavy boundary.

Bw1—16 to 26 inches; dark brown (10YR 3/3) very paragravelly loam, brown (10YR 5/3) dry; moderate very fine subangular blocky structure; slightly hard, friable, moderately sticky and slightly plastic; few fine roots throughout; many very fine tubular and irregular pores; 5 percent gravel and 40 percent paragravel; very strongly acid (pH 4.8); clear wavy boundary.

Bw2—26 to 34 inches; brown (10YR 4/3) extremely paragravelly clay loam, pale brown (10YR 6/3) dry; moderate very fine subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few fine roots throughout; common very fine tubular pores; 10 percent gravel and 60 percent paragravel; very strongly acid (pH 4.6); abrupt wavy boundary.

Cr—34 inches; fractured, partially weathered sandstone and siltstone.

Typical Pedon Location

Map unit in which located: Reedsport-Tolovana complex, 60 to 85 percent slopes; Lincoln County, Oregon

Location: In an area of forestland about 2.5 miles east of Ona Beach; about 5,000 feet north and 1,400 feet east of the southwest corner of section 16, T. 12 S., R. 11 W.

Range in Characteristics

Profile
Depth to bedrock—20 to 40 inches
Thickness of umbric epipedon—20 to 30 inches

A1 horizon
Value—2 or 3 moist, 3 to 5 dry
Chroma—2 or 3 moist or dry
Texture—paragravelly medial loam
Content of clay—10 to 25 percent (apparent, by field estimates)
Content of rock and pararock fragments—5 to 10 percent gravel and 0 to 15 percent paragravel
Reaction—strongly acid or moderately acid
Consistence—weakly smeary or moderately smeary

A2 horizon
Value—2 or 3 moist, 3 to 5 dry
Chroma—2 or 3 moist or dry
Texture—paragravelly loam, paragravelly medial loam, or medial loam
Content of clay—10 to 25 percent (apparent, by field estimates)
Content of rock and pararock fragments—5 to 10 percent gravel and 0 to 20 percent paragravel
Reaction—strongly acid or moderately acid

Bw horizon
Hue—10YR or 7.5YR
Value—3 or 4 moist, 5 or 6 dry
Chroma—2 or 3 moist, 3 or 4 dry
Texture—very paragravelly loam, paragravelly loam, paragravelly clay loam, very paragravelly clay loam, extremely paragravelly loam, extremely paragravelly clay loam, gravelly loam, or gravelly clay loam
Content of clay—20 to 35 percent
Content of rock and pararock fragments—5 to 25 percent gravel, 0 to 5 percent cobbles, 15 to 60 percent paragravel, and 0 to 5 percent paracobbles
Reaction—very strongly acid or strongly acid

Rinearson Series

Depth class: Deep
Drainage class: Well drained
Landform: Mountains
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 3 to 30 percent
Elevation: 500 to 1,600 feet
Mean annual precipitation: 80 to 120 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 210 days

Taxonomic classification: Fine-silty, isotic, mesic Humic Dystrudepts

Typical Pedon

Oi—0 to 1 inch; slightly decomposed plant material; abrupt smooth boundary.
A1—1 to 6 inches; very dark brown (10YR 2/2) silt loam, dark grayish brown (10YR 4/2) dry; moderate very fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine and fine irregular pores; 5 percent siltstone paragravel; very strongly acid (pH 5.0); clear smooth boundary.

A2—6 to 16 inches; very dark grayish brown (10YR 3/2) silt loam, brown (10YR 5/3) dry; moderate very fine subangular blocky structure; slightly hard, friable, moderately sticky and slightly plastic; many very fine and fine roots; many very fine and fine irregular pores; 5 percent siltstone paragravel; very strongly acid (pH 5.0); abrupt smooth boundary.
Bw1—16 to 27 inches; yellowish brown (10YR 5/4) paragravelly silty clay loam, light yellowish brown (10YR 6/4) dry; moderate very fine subangular blocky structure; hard, firm, moderately sticky and slightly plastic; common very fine and fine and few coarse roots; common very fine tubular pores; 20 percent siltstone paragravel; very strongly acid (pH 5.0); gradual smooth boundary.
Bw2—27 to 39 inches; yellowish brown (10YR 5/4) paragravelly silty clay loam, brownish yellow (10YR 6/6) dry; moderate very fine subangular blocky structure; hard, firm, moderately sticky and slightly plastic; common very fine and few medium roots; common very fine tubular pores; 25 percent siltstone paragravel; very strongly acid (pH 5.0); gradual wavy boundary.
BC—39 to 52 inches; yellowish brown (10YR 5/6, 5/4) very paragravelly silty clay loam, brownish yellow (10YR 6/6) dry; weak very fine subangular blocky structure; hard, firm, moderately sticky and slightly plastic; common very fine and few medium roots; common very fine tubular pores; 35 percent siltstone paragravel and 15 percent paracobbles; very strongly acid (pH 5.0); clear wavy boundary.
Cr—52 inches; partially weathered siltstone.

Typical Pedon Location

Map unit in which located: Rinearson silt loam, 3 to 30 percent slopes
Location in survey area: In an area of forestland about 0.3 mile south of the Tillamook County-Clatsop County line; about 1,600 feet east and 1,600 feet south of the northwest corner of section 3, T. 3 N., R. 6 W.

Range in Characteristics

Profile
Depth to bedrock—40 to 60 inches
Thickness of umbric epipedon—10 to 20 inches
Hue—10YR or 7.5YR

A horizon
Value—2 or 3 moist, 4 or 5 dry
Chroma—2 or 3 moist or dry
Texture—silt loam
Content of clay—20 to 27 percent
Content of pararock fragments—0 to 10 percent paragravel
Reaction—very strongly acid or strongly acid

Bw horizon
Value—3 to 5 moist, 4 to 6 dry
Chroma—4 to 6 moist or dry
Texture—paragravelly silty clay loam, silt loam, silty clay loam, or paragravelly silt loam
Content of clay—25 to 35 percent
Content of pararock fragments—5 to 25 percent paragravel and 0 to 10 percent paracobbles
Reaction—extremely acid to strongly acid

BC and C horizons, where present
Value—4 or 5 moist, 5 or 6 dry
Chroma—4 to 6 moist or dry
Texture—very paragravelly silty clay loam, paragravelly loam, paragravelly silt loam, paragravelly silty clay loam, paracobbly silt loam, or very paracobbly silty clay loam

Content of clay—22 to 35 percent
Content of pararock fragments—15 to 35 percent paragravel and 0 to 25 percent paracobbles
Reaction—extremely acid to strongly acid

Salander Series

Depth class: Very deep
Drainage class: Well drained
Landform: Hills and mountains
Parent material: Colluvium and residuum derived from igneous rock
Slope range: 5 to 90 percent
Elevation: 50 to 1,800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Taxonomic classification: Medial, ferrihydritic, isomesic Typic Fulvudands

Typical Pedon

Oi—0 to 2 inches; partially decomposed plant material; abrupt smooth boundary.
A1—2 to 14 inches; very dark brown (7.5YR 2.5/2) medial loam, brown (10YR 5/3) dry; moderate very fine granular and subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; moderately smeary; many very fine and fine and common medium roots throughout; many very fine irregular pores; 5 percent gravel and 5 percent paragravel; very strongly acid (pH 4.6); clear wavy boundary.
A2—14 to 25 inches; dark brown (7.5YR 3/2) medial loam, brown (10YR 5/3) dry; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; many very fine, common fine, and few medium roots throughout; many very fine irregular pores; 5 percent gravel and 5 percent paragravel; very strongly acid (pH 4.6); clear wavy boundary.
Bw1—25 to 41 inches; dark brown (7.5YR 3/3) medial loam, brown (10YR 5/3) dry; moderate fine and very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; common very fine and fine roots throughout; many very fine irregular pores; 5 percent gravel and 5 percent paragravel; very strongly acid (pH 4.6); gradual wavy boundary.
Bw2—41 to 52 inches; dark brown (7.5YR 3/4) paragravelly medial loam, yellowish brown (10YR 5/4) dry; moderate fine and very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; moderately smeary; few very fine and fine roots throughout; common very fine irregular pores; 10 percent gravel and 20 percent paragravel; very strongly acid (pH 4.8); gradual wavy boundary.
Bw3—52 to 66 inches; dark brown (7.5YR 3/4) paragravelly medial clay loam, yellowish brown (10YR 5/4) dry; moderate fine and very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; few very fine and fine roots throughout; common very fine irregular and tubular pores; 10 percent gravel and 20 percent paragravel; very strongly acid (pH 4.8).

Typical Pedon Location

Map unit in which located: Salander-Necanicum complex, 30 to 60 percent slopes
Location in survey area: In an area of forestland about 3.1 miles southeast of Neskowin, Oregon; about 200 feet west and 150 feet south of the northeast corner of section 13, T. 6 S., R. 11 W.

Range in Characteristics

Profile
Depth to bedrock—more than 60 inches
Thickness of umbric epipedon—20 to 40 inches
Hue—7.5YR or 10YR
Reaction—very strongly acid throughout
Consistence—weakly smeary or moderately smeary throughout

A horizon
Value—2 or 3 moist, 3 to 5 dry
Chroma—1 or 2 moist, 2 or 3 dry
Texture—medial loam
Content of clay—18 to 25 percent (apparent, by field estimates)
Content of rock and pararock fragments—0 to 10 percent gravel, 0 to 10 percent cobbles, and 0 to 10 percent paragravel

Bw1 horizon
Value—2 or 3 moist, 4 or 5 dry
Chroma—2 or 3 moist or dry
Texture—medial loam or paragravelly medial loam
Content of clay—20 to 27 percent (apparent, by field estimates)
Content of rock and pararock fragments—0 to 10 percent gravel, 0 to 10 percent cobbles, and 0 to 20 percent paragravel

Bw2 and Bw3 horizons
Value—3 or 4 moist, 4 or 5 dry
Chroma—3 or 4 moist or dry
Texture—paragravelly medial loam, paragravelly medial clay loam, medial loam, medial clay loam, gravelly medial loam, or gravelly medial clay loam
Content of clay—20 to 30 percent (apparent, by field estimates)
Content of rock and pararock fragments—0 to 25 percent gravel, 0 to 10 percent cobbles, and 0 to 20 percent paragravel

Scaponia Series

Depth class: Deep
Drainage class: Well drained
Landform: Mountains
Parent material: Colluvium derived from sedimentary rock
Slope range: 30 to 90 percent
Elevation: 1,000 to 2,000 feet
Mean annual precipitation: 80 to 120 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 210 days

Taxonomic classification: Fine-loamy, isotic, mesic Typic Dystrudepts

Typical Pedon

Oi—0 to 2 inches; slightly decomposed plant material; abrupt smooth boundary.
A—2 to 9 inches; dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; moderate fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine irregular pores; many very fine concretions; 10 percent paragravel; very strongly acid (pH 5.0); clear wavy boundary.

Bw1—9 to 15 inches; dark yellowish brown (10YR 4/4) paragravelly silt loam, light yellowish brown (10YR 6/4) dry; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine tubular pores; 20 percent paragravel; very strongly acid (pH 5.0); gradual smooth boundary.

Bw2—15 to 26 inches; dark yellowish brown (10YR 4/4) paragravelly silt loam, light yellowish brown (10YR 6/4) dry; moderate fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine roots; many very fine tubular pores; 30 percent paragravel; very strongly acid (pH 5.0); clear wavy boundary.

BC—26 to 45 inches; yellowish brown (10YR 5/6) very paragravelly silt loam, brownish yellow (10YR 6/6) dry; weak very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine roots; many very fine tubular pores; 45 percent paragravel and 10 percent paracobbles; very strongly acid (pH 5.0); clear wavy boundary.

Cr—45 inches; highly fractured siltstone.

Typical Pedon Location

Map unit in which located: Scaponia-Braun silt loams, 30 to 60 percent slopes; Clatsop County, Oregon

Location: In an area of forestland about 2 miles east of Camp McGregor; about 2,200 feet north and 1,000 feet east of the southwest corner of section 13, T. 4 N., R. 6 W.

Range in Characteristics

Profile

Depth to bedrock—40 to 60 inches
Hue—10YR or 7.5YR
Reaction—very strongly acid or strongly acid

A horizon

Value—2 or 3 moist, 4 or 5 dry
Chroma—2 or 3 moist or dry
Texture—silt loam
Content of clay—12 to 18 percent
Content of pararock fragments—5 to 15 percent paragravel

Bw horizon

Value—4 or 5 moist, 5 or 6 dry
Chroma—3 or 4 moist or dry
Texture—paragravelly silt loam, silty loam, loam, or paragravelly loam
Content of clay—18 to 27 percent
Content of pararock fragments—10 to 35 percent paragravel and 0 to 10 percent paracobbles

BC horizon

Value—4 or 5 moist, 5 or 6 dry
Chroma—4 or 5 moist or dry
Texture—very paragravelly silt loam, very paragravelly loam, or extremely paragravelly loam
Content of clay—18 to 27 percent
Content of pararock fragments—35 to 60 percent paragravel and 5 to 20 percent paracobbles

Sevencedars Series

Depth class: Very deep
Drainage class: Well drained
Landform: Mountains
Parent material: Colluvium derived from igneous rock and in some areas, colluvium over glacial till derived from igneous rock or colluvium derived from igneous rock over residuum derived from tuff
Slope range: 5 to 90 percent
Elevation: 2,800 to 3,700 feet
Mean annual precipitation: 130 to 150 inches
Mean annual air temperature: 39 to 42 degrees F
Frost-free period: 40 to 80 days

Taxonomic classification: Medial-skeletal, ferrihydritic Typic Fulvicryands

Typical Pedon

Oi—0 to 1 inch; slightly decomposed plant material; abrupt smooth boundary.
A1—1 to 6 inches; very dark brown (7.5YR 2/2) gravelly medial loam, dark brown (7.5YR 4/3) dry; weak very fine subangular blocky structure; slightly hard, very friable, slightly sticky and nonplastic; moderately smeary; many very fine and common fine, medium, and coarse roots; few fine irregular pores; 20 percent gravel and 5 percent cobbles; strongly acid (pH 5.4); clear smooth boundary.
A2—6 to 13 inches; very dark brown (7.5YR 2/2) very cobbly medial loam, dark yellowish brown (10YR 4/4) dry; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; moderately smeary; common very fine, fine, medium, and coarse roots; few fine irregular pores; 25 percent gravel and 15 percent cobbles; strongly acid (pH 5.4); clear wavy boundary.
Bw1—13 to 28 inches; dark brown (7.5YR 3/4) very cobbly medial loam, yellowish brown (10YR 5/6) dry; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; moderately smeary; few very fine and common fine, medium, and coarse roots; few fine irregular pores; 25 percent gravel and 15 percent cobbles; very strongly acid (pH 5.0); gradual wavy boundary.
Bw2—28 to 53 inches; brown (7.5YR 4/4) very cobbly medial loam, yellowish brown (10YR 5/8) dry; weak fine subangular blocky structure; soft, friable, nonsticky and nonplastic; moderately smeary; few medium roots; 25 percent gravel and 15 percent cobbles; very strongly acid (pH 5.0); gradual wavy boundary.
Bw3—53 to 68 inches; brown (7.5YR 4/4) very gravelly medial sandy loam, yellowish brown (10YR 5/8) dry; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; moderately smeary; 25 percent gravel and 10 percent cobbles; very strongly acid (pH 5.0).

Typical Pedon Location

Map unit in which located: Sevencedars-Newanna-Woodspoint complex, 5 to 30 percent slopes
Location in survey area: In an area of forestland about 2,000 feet south and 2,000 feet east of the northwest corner of section 28, T. 1 N., R. 6 W.

Range in Characteristics

Profile
Depth to bedrock—more than 60 inches
Thickness of umbric epipedon—10 to 20 inches
Content of rock fragments in the particle-size control section—15 to 70 percent, averaging more than 35 percent

Reaction—very strongly acid to moderately acid
Consistence—weakly smeary or moderately smeary throughout

A1 horizon
Value—2 or 3 moist, 3 to 5 dry
Chroma—2 or 3 moist, 3 or 4 dry
Texture—gravelly medial loam in the Sevencedars soils; very cobbly medial loam in the Sevencedars soils, till substratum, and Sevencedars soils, clayey
Content of clay—10 to 27 percent (apparent, by field estimates) in the Sevencedars soils and Sevencedars soils, till substratum; 25 to 27 percent (apparent, by field estimates) in the Sevencedars soils, clayey
Content of rock fragments—15 to 35 percent gravel, 0 to 10 percent cobbles, and 0 to 5 percent stones in the Sevencedars soils; 15 to 35 percent gravel, 10 to 35 percent cobbles, and 0 to 10 percent stones in the Sevencedars soils, till substratum; 15 to 35 percent gravel, 15 to 35 percent cobbles, and 0 to 10 percent stones in the Sevencedars soils, clayey

A2 horizon
Value—2 or 3 moist, 3 to 5 dry
Chroma—2 or 3 moist, 3 or 4 dry
Texture—very cobbly medial loam, cobbly medial loam, gravelly medial loam, or very gravelly medial loam
Content of clay—10 to 27 percent (apparent, by field estimates) in the Sevencedars soils and Sevencedars soils, till substratum; 25 to 27 percent (apparent, by field estimates) in the Sevencedars soils, clayey
Content of rock fragments—15 to 35 percent gravel, 5 to 35 percent cobbles, and 0 to 10 percent stones in the Sevencedars soils and Sevencedars soils, till substratum; 15 to 35 percent gravel, 15 to 35 percent cobbles, and 0 to 10 percent stones in the Sevencedars soils, clayey

Bw1 and Bw2 horizons
Value—3 or 4 moist, 4 to 6 dry
Chroma—3 or 4 moist, 4 to 8 dry
Texture—very cobbly medial loam, very cobbly medial sandy loam, extremely cobbly medial sandy loam, very gravelly medial loam, or very gravelly medial sandy loam in the Sevencedars soils and Sevencedars soils, till substratum; very cobbly medial clay loam or very gravelly medial clay loam in the Sevencedars soils, clayey
Content of clay—10 to 27 percent (apparent, by field estimates) in the Sevencedars soils and Sevencedars soils, till substratum; 28 to 30 percent (apparent, by field estimates) in the Sevencedars soils, clayey
Content of rock fragments—15 to 35 percent gravel, 5 to 35 percent cobbles, and 0 to 10 percent stones in the Sevencedars soils and Sevencedars soils, till substratum; 15 to 35 percent gravel, 15 to 35 percent cobbles, and 0 to 10 percent stones in the Sevencedars soils, clayey

Bw3 horizon
Value—3 or 4 moist, 4 to 6 dry
Chroma—3 or 4 moist, 4 to 8 dry
Texture—very gravelly medial sandy loam, very cobbly medial sandy loam, very cobbly medial loam, extremely cobbly medial sandy loam, or very gravelly medial loam in the Sevencedars soils; very gravelly sandy loam, very cobbly sandy loam, very cobbly loam, extremely cobbly sandy loam, or very gravelly loam in the Sevencedars soils, till substratum, below a depth of 40 inches; very cobbly clay

loam or very gravelly clay loam in the Sevencedars soils, clayey, below a depth of 40 inches

Content of clay—10 to 27 percent (apparent, by field estimates) in the Sevencedars soils; 10 to 27 percent in the Sevencedars soils, till substratum; 28 to 40 percent in the Sevencedars soils, clayey

Content of rock fragments—15 to 35 percent gravel, 5 to 35 percent cobbles, and 0 to 10 percent stones in the Sevencedars soils and Sevencedars soils, till substratum; 15 to 35 percent gravel, 15 to 35 percent cobbles, and 0 to 10 percent stones in the Sevencedars soils, clayey

Siletz Series

Depth class: Very deep
Drainage class: Well drained
Landform: Stream terraces
Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 0 to 7 percent
Elevation: 50 to 400 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 120 to 260 days

Taxonomic classification: Medial over loamy, ferrihydritic over isotic, isomesic Typic Fulvudands

Typical Pedon

Ap—0 to 9 inches; very dark brown (10YR 2/2) medial silt loam, brown (10YR 4/3) dry; weak fine subangular blocky structure parting to moderate very fine subangular blocky and moderate very fine granular; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; many very fine roots throughout; strongly acid (pH 5.4); clear smooth boundary.

A—9 to 19 inches; dark brown (7.5YR 3/3) medial silt loam, brown (10YR 4/3) dry; moderate very fine subangular blocky structure and moderate very fine granular; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; many very fine roots throughout; strongly acid (pH 5.2); clear smooth boundary.

2Bw1—19 to 32 inches; dark brown (7.5YR 3/4) silty clay loam, yellowish brown (10YR 5/4) dry; moderate very fine and fine subangular blocky structure; slightly hard, friable, moderately sticky and slightly plastic; many very fine roots throughout; very strongly acid (pH 4.5); gradual smooth boundary.

2Bw2—32 to 41 inches; brown (7.5YR 4/4) clay loam, yellowish brown (10YR 5/6) dry; moderate very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine roots throughout; very strongly acid (pH 4.6); clear smooth boundary.

3C—41 to 52 inches; dark brown (7.5YR 3/4) fine sandy loam, dark yellowish brown (10YR 4/6) dry; massive; soft, very friable, slightly sticky and slightly plastic; few very fine roots throughout; very strongly acid (pH 4.8); abrupt smooth boundary.

4C—52 to 60 inches; dark yellowish brown (10YR 3/4) extremely gravelly loamy sand, yellowish brown (10YR 5/6) dry; single grain; loose, nonsticky and nonplastic; 75 percent gravel and 10 percent cobbles; very strongly acid (pH 4.8).

Typical Pedon Location

Map unit in which located: Siletz medial silt loam, 0 to 7 percent slopes

Location in survey area: In an area of pastureland about 1.6 miles east of the town of Beaver, Oregon; about 2,300 feet east and 2,300 feet south of the northwest corner of section 28, T. 3 S., R. 9 W.

Range in Characteristics

Profile
Depth to bedrock—more than 60 inches
Thickness of umbric epipedon—12 to 20 inches
Depth to strongly contrasting textural stratification—40 to 60 inches
Hue—10YR or 7.5YR
Reaction—very strongly acid to moderately acid

Ap and A horizons
Value—2 or 3 moist, 4 or 5 dry
Chroma—2 or 3 moist or dry
Texture—medial silt loam
Content of clay—20 to 25 percent (apparent, by field estimates)
Content of rock fragments—0 to 5 percent gravel
Consistence—weakly smeary or moderately smeary

Bw horizon, where present
Value—3 or 4 moist, 4 to 6 dry
Chroma—4 to 6 moist or dry
Texture—medial silt loam or medial loam
Content of clay—20 to 27 percent
Content of rock fragments—0 to 10 percent gravel

2Bw and 2BC horizons, where present
Value—3 or 4 moist, 4 to 6 dry
Chroma—4 to 6 moist or dry
Texture—silty clay loam, clay loam, very fine sandy loam, or fine sandy loam
Content of clay—10 to 35 percent
Content of rock fragments—0 to 10 percent gravel

2C, 3C, and 4C horizons, where present
Value—3 to 6 moist or dry
Chroma—2 to 6 moist or dry
Texture—very gravelly fine sandy loam, gravelly fine sandy loam, fine sandy loam, extremely gravelly loamy sand, or extremely gravelly sandy loam
Content of clay—5 to 15 percent
Content of rock fragments—0 to 75 percent gravel and 0 to 10 percent cobbles

Skipanon Series

Depth class: Very deep; deep along the Tillamook County-Clatsop County line
Drainage class: Well drained
Landform: Hills and landslide deposits on mountains
Parent material: Mass movement deposits derived from a mixture of igneous and sedimentary rock over sedimentary rock
Slope range: 3 to 60 percent
Elevation: 50 to 1,500 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Taxonomic classification: Fine-loamy, isotic, isomesic Andic Dystrudepts

Typical Pedon

Oi—0 to 2 inches; partially decomposed plant material; abrupt smooth boundary.

A1—2 to 7 inches; dark brown (7.5YR 3/2) gravelly medial silt loam, brown (10YR 4/3) dry; moderate very fine subangular blocky structure and moderate fine granular; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; many very fine and fine and common medium roots throughout; many very fine irregular pores; 20 percent gravel, 5 percent cobbles, and 5 percent paragravel; extremely acid (pH 4.4); clear wavy boundary.
A2—7 to 15 inches; dark brown (7.5YR 3/3) gravelly silt loam, brown (10YR 5/3) dry; moderate fine and very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; common fine and few very fine roots throughout; many very fine irregular pores; 15 percent gravel, 5 percent cobbles, and 5 percent paragravel; very strongly acid (pH 4.6); clear wavy boundary.
Bw1—15 to 29 inches; dark yellowish brown (10YR 4/4) gravelly clay loam, light yellowish brown (10YR 6/4) dry; moderate fine and very fine subangular blocky structure; slightly hard, friable, moderately sticky and slightly plastic; few very fine roots throughout; many very fine tubular pores; 15 percent gravel, 5 percent cobbles, and 10 percent paragravel; very strongly acid (pH 4.6); clear wavy boundary.
Bw2—29 to 44 inches; yellowish brown (10YR 5/4) gravelly clay loam, very pale brown (10YR 7/4) dry; moderate fine and very fine subangular blocky structure; moderately hard, firm, moderately sticky and moderately plastic; few very fine roots throughout; few very fine tubular pores; 20 percent gravel, 5 percent cobbles, 5 percent stones, and 20 percent paragravel; very strongly acid (pH 4.6); clear wavy boundary.
C—44 to 62 inches; variegated strong brown (7.5YR 5/6 and 4/6), yellowish brown (10YR 5/4), and light brownish gray (10YR 6/2) paragravelly clay loam, variegated very pale brown (10YR 7/4), light yellowish brown (10YR 6/4), and very pale brown (10YR 8/2) dry; massive; slightly hard, friable, moderately sticky and slightly plastic; few very fine tubular pores; 5 percent gravel, 5 percent cobbles, and 20 percent paragravel; very strongly acid (pH 4.6).

Typical Pedon Location

Map unit in which located: Templeton-Skipanon complex, 5 to 30 percent slopes
Location in survey area: In an area of forestland about 1.2 miles south of the town of Cloverdale, Oregon; about 1,250 feet north and 100 feet east of the southwest corner of section 26, T. 4 S., R. 10 W.

Range in Characteristics

Profile
Depth to bedrock—more than 60 inches
Thickness of umbric epipedon—10 to 20 inches
Hue—7.5YR or 10YR; 5YR in A and AB horizons in some pedons

A1 horizon
Value—2 or 3 moist, 4 or 5 dry
Chroma—2 or 3 moist or dry
Texture—gravelly medial silt loam
Content of clay—18 to 25 percent (apparent, by field estimates)
Content of rock and pararock fragments—15 to 30 percent gravel, 0 to 5 percent cobbles, and 0 to 5 percent paragravel
Consistence—weakly smeary or moderately smeary

A2 and AB horizons, where present
Value—2 or 3 moist, 4 or 5 dry
Chroma—2 or 3 moist or dry

Texture—gravelly silt loam or gravelly medial silt loam
Content of clay—18 to 25 percent (apparent, by field estimates)
Content of rock and pararock fragments—15 to 30 percent gravel, 0 to 5 percent cobbles, and 0 to 10 percent paragravel
Consistence—weakly smeary or moderately smeary

Bw horizon
Value—3 to 5 moist, 4 to 7 dry
Chroma—4 or 5 moist or dry
Texture—gravelly clay loam, cobbly clay loam, gravelly silt loam, or cobbly silt loam
Content of clay—20 to 35 percent
Content of rock and pararock fragments—15 to 30 percent gravel, 0 to 15 percent cobbles, 0 to 5 percent stones, and 5 to 20 percent paragravel

C horizon
Value—4 to 6 moist, 6 to 8 dry
Chroma—2 to 6 moist or dry
Texture—paragravelly clay loam, paragravelly silty clay loam, paragravelly silt loam, very paragravelly clay loam, very paragravelly silt loam, clay loam, or silty clay loam
Content of clay—25 to 35 percent
Content of rock and pararock fragments—0 to 5 percent gravel, 0 to 5 percent cobbles, and 5 to 45 percent paragravel

Svensen Series

Depth class: Very deep
Drainage class: Well drained
Landform: Mountains
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 3 to 60 percent
Elevation: 20 to 500 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees
Frost-free period: 120 to 210 days

Taxonomic classification: Fine-loamy, isotic, isomesic Andic Dystrudepts

Typical Pedon

Oi—0 to 3 inches; slightly decomposed plant material; abrupt smooth boundary.
A1—3 to 11 inches; very dark brown (10YR 2/2) medial loam, grayish brown (10YR 5/2) dry; moderate fine and very fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; many very fine roots; many very fine irregular pores; extremely acid (pH 4.0); clear wavy boundary.
A2—11 to 20 inches; dark brown (10YR 3/3) loam, brown (10YR 5/3) dry; moderate very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; common very fine roots; many very fine tubular pores; very strongly acid (pH 4.8); gradual wavy boundary.
Bw—20 to 41 inches; brown (10YR 4/3) loam, yellowish brown (10YR 5/4) dry; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; common very fine tubular pores; very strongly acid (pH 4.6); clear wavy boundary.
C—41 to 63 inches; variegated strong brown (7.5YR 4/6 and 5/6) and light brownish gray (10YR 6/2) fine sandy loam, strong brown (7.5YR 5/6), reddish yellow (7.5YR 6/6), and very pale brown (10YR 7/3) dry; massive; slightly hard, friable, slightly

sticky and slightly plastic; few very fine roots; common very fine tubular pores; extremely acid (pH 3.8).

Typical Pedon Location

Map unit in which located: Svensen medial loam, 30 to 60 percent slopes; Clatsop County, Oregon

Location: In an area of forestland about 6.2 miles southeast of Astoria, Oregon, south of spur road off Baseline Road; about 1,900 feet north and 2,800 feet west of the southeast corner of section 25, T. 8 N., R. 9 W.

Range in Characteristics

Profile
Depth to bedrock—more than 60 inches
Thickness of umbric epipedon—10 to 20 inches
Hue—10YR or 7.5YR
Reaction—extremely acid to strongly acid

A1 horizon
Value—2 or 3 moist, 4 or 5 dry
Chroma—2 or 3 moist or dry
Texture—medial loam
Content of clay—15 to 20 percent (apparent, by field estimates)
Consistence—weakly smeary or moderately smeary

A2 horizon
Value—3 moist, 4 or 5 dry
Chroma—2 or 3 moist or dry
Texture—loam or medial loam
Content of clay—15 to 20 percent

Bw horizon
Value—3 or 4 moist, 4 to 6 dry
Chroma—2 to 5 moist or dry
Texture—loam or clay loam
Content of clay—20 to 30 percent

C horizon
Value—variegated
Chroma—variegated
Texture—loam, fine sandy loam, sandy loam, or paragravelly fine sandy loam
Content of clay—15 to 25 percent
Content of pararock fragments—0 to 30 percent paragravel

Templeton Series

Depth class: Deep
Drainage class: Well drained
Landform: Hills, mountains, and landslide deposits on mountains
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 5 to 90 percent
Elevation: 50 to 1,800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Taxonomic classification: Fine-silty, isotic, isomesic Andic Dystrudepts

Typical Pedon

Oi—0 to 2 inches; slightly decomposed plant material; abrupt smooth boundary.

A—2 to 15 inches; very dark brown (10YR 2/2) medial silt loam, very dark grayish brown (10YR 3/2) dry; weak very fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; weakly smeary; many very fine, fine, medium, and coarse roots; few very fine irregular pores; 10 percent paragravel; very strongly acid (pH 4.6); clear smooth boundary.

Bw1—15 to 28 inches; dark yellowish brown (10YR 3/4) silty clay loam, yellowish brown (10YR 5/4) dry; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine roots; few very fine irregular pores; 10 percent paragravel; very strongly acid (pH 4.8); diffuse smooth boundary.

Bw2—28 to 43 inches; dark yellowish brown (10YR 3/4) silty clay loam, yellowish brown (10YR 5/4) dry; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; few fine roots; few very fine irregular pores; 10 percent paragravel; very strongly acid (pH 5.0); gradual smooth boundary.

Bw3—43 to 54 inches; dark yellowish brown (10YR 4/4) silty clay loam, yellowish brown (10YR 5/4) dry; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few fine roots; few very fine irregular pores; 10 percent paragravel; very strongly acid (pH 5.0); gradual irregular boundary.

Bw4—54 to 59 inches; dark yellowish brown (10YR 4/6) paragravelly silty clay loam, brownish yellow (10YR 6/6) dry; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine irregular pores; 30 percent paragravel; very strongly acid (pH 5.0); gradual irregular boundary.

Cr—59 inches; strong brown (10YR 5/6) and yellowish red (7.5YR 4/6), highly fractured, weathered siltstone.

Typical Pedon Location

Map unit in which located: Templeton-Ecola medial silt loams, 30 to 60 percent slopes (fig. 120)

Location in survey area: In an area of forestland about 2 miles northwest of the town of Hemlock, Oregon; about 3,000 feet north and 2,000 feet west of the southeast corner of section 1, T. 3 S., R. 10 W.

Range in Characteristics

Profile

Depth to bedrock—40 to 60 inches
Thickness of umbric epipedon—10 to 20 inches
Hue—10YR to 7.5YR
Reaction—extremely acid to strongly acid

A horizon

Value—2 or 3 moist, 3 to 5 dry
Chroma—2 or 3 moist or dry
Texture—medial silt loam
Content of clay—18 to 27 percent (apparent, by field estimates)
Content of rock and pararock fragments—0 to 5 percent gravel and 0 to 15 percent paragravel
Consistence—weakly smeary or moderately smeary

Bw1 horizon

Value—3 to 5 moist, 5 or 6 dry
Chroma—4 to 8 moist or dry

Figure 120.—Typical profile of Templeton medial silt loam in an area of Templeton-Ecola medial silt loams, 30 to 60 percent slopes.

Texture—silty clay loam or silt loam
Content of clay—25 to 35 percent
Content of rock and pararock fragments—0 to 5 percent gravel and 0 to 15 percent paragravel

Bw2, Bw3, and Bw4 horizons
Value—3 to 5 moist, 5 or 6 dry
Chroma—4 to 8 moist or dry
Texture—silty clay loam, silt loam, paragravelly silty clay loam, paragravelly silt loam, very paragravelly silty clay loam, or very paragravelly silt loam
Content of clay—25 to 35 percent
Content of rock and pararock fragments—0 to 5 percent gravel and 0 to 50 percent paragravel

Tillamook Series

Depth class: Very deep
Drainage class: Moderately well drained
Landform: Stream terraces
Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 0 to 15 percent
Elevation: 20 to 200 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Taxonomic classification: Medial over loamy, ferrihydritic over isotic, isomesic Aquic Melanudands

Typical Pedon

Ap—0 to 8 inches; very dark brown (10YR 2/2) medial silt loam, very dark grayish brown (10YR 3/2) dry; strong fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; many very fine roots; many fine interstitial and irregular pores; very strongly acid (pH 4.6); gradual smooth boundary.

A1—8 to 20 inches; very dark brown (10YR 2/2) medial silt loam, dark grayish brown (10YR 4/2) dry; moderate fine subangular blocky structure parting to moderate very fine granular; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; many very fine roots; many fine interstitial and irregular pores; very strongly acid (pH 4.6); clear wavy boundary.

A2—20 to 25 inches; very dark grayish brown (10YR 3/2) medial silt loam, grayish brown (10YR 5/2) dry; moderate fine and very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; many very fine roots; many very fine tubular pores; very strongly acid (pH 4.6); abrupt wavy boundary.

2Bw1—25 to 35 inches; dark yellowish brown (10YR 4/4) silty clay loam, light yellowish brown (10YR 6/4) dry; moderate fine and very fine subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few fine and very fine roots; common very fine tubular pores; common fine prominent yellowish brown (10YR 5/8) irregular iron masses in matrix; very strongly acid (pH 4.6); gradual smooth boundary.

2Bw2—35 to 52 inches; dark yellowish brown (10YR 4/4) silty clay loam, light yellowish brown (10YR 6/4) dry; moderate fine and medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; very few fine roots; common very fine tubular pores; many fine prominent yellowish brown (10YR 5/8) irregular iron masses in matrix; very strongly acid (pH 4.6); gradual smooth boundary.

2BC—52 to 60 inches; yellowish brown (10YR 5/4) silty clay loam, light yellowish brown (10YR 6/4) dry; weak medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; very few fine roots; common fine tubular pores; many fine prominent yellowish brown (10YR 5/8) irregular iron masses and many medium distinct grayish brown (10YR 5/2) irregular iron depletions in matrix; very strongly acid (pH 4.6).

Typical Pedon Location

Map unit in which located: Tillamook-Ginger medial silt loams, 0 to 7 percent slopes

Location in survey area: In an area of pastureland about 2.5 miles east of Tillamook, Oregon; about 2,600 feet south and 1,300 feet west of the northeast corner of section 28, T. 1 S., R. 9 W.

Range in Characteristics

Profile
Depth to bedrock—more than 60 inches
Thickness of umbric epipedon—20 to 30 inches
Depth to redoximorphic features—20 to 30 inches
Reaction—very strongly acid to moderately acid

Ap horizon
Value—1 or 2 moist, 2 or 3 dry
Chroma—1 or 2 moist or dry
Texture—medial silt loam
Content of clay—18 to 25 percent (apparent, by field estimates)
Content of rock fragments—0 to 10 percent gravel
Consistence—weakly smeary or moderately smeary

A1 horizon
Value—2 moist, 3 to 5 dry
Chroma—1 or 2 moist, 2 or 3 dry
Texture—medial silt loam
Content of clay—18 to 25 percent (apparent, by field estimates)
Content of rock fragments—0 to 10 percent gravel
Consistence—weakly smeary or moderately smeary

A2 and AB horizons, where present
Value—2 or 3 moist, 3 to 5 dry
Chroma—2 or 3 moist or dry
Texture—medial silt loam or medial silty clay loam
Content of clay—18 to 30 percent (apparent, by field estimates)
Content of rock fragments—0 to 10 percent gravel
Consistence—weakly smeary or moderately smeary

2Bw and 2BC horizons, where present
Value—3 to 5 moist, 4 to 6 dry
Chroma—4 to 6 moist or dry
Texture—silty clay loam or clay loam
Content of clay—27 to 35 percent
Content of rock fragments—0 to 10 percent gravel

2C and 3C horizons, where present
Hue—10YR or 7.5YR
Value—4 to 6 moist or dry
Chroma—2 to 6 moist or dry
Texture—extremely gravelly loam, sandy clay loam, loam, or gravelly clay loam
Content of clay—15 to 35 percent
Content of rock fragments—0 to 80 percent gravel and 0 to 25 percent cobbles
Cementation—none to intermittent; very weakly cemented or weakly cemented lenses at a depth of 40 to 60 inches or more below the mineral soil surface

Tolke Series

Depth class: Very deep
Drainage class: Well drained

Landform: Mountains
Parent material: Colluvium and residuum derived from tuffaceous sedimentary rock and from igneous rock in some areas
Slope range: 5 to 60 percent
Elevation: 800 to 2,000 feet
Mean annual precipitation: 80 to 120 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 210 days

Taxonomic classification: Medial, ferrihydritic, mesic Alic Hapludands

Typical Pedon

Oi—0 to 1 inch; slightly decomposed plant material; abrupt smooth boundary.
A—1 to 6 inches; dark brown (7.5YR 3/2) medial silt loam, brown (7.5YR 5/4) dry; strong fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; moderately smeary; many fine roots; many very fine irregular pores; 15 percent very fine concretions; strongly acid (pH 5.2); clear smooth boundary.
AB—6 to 10 inches; dark brown (7.5YR 4/4) medial silt loam, yellowish red (5YR 5/6) dry; strong very fine subangular blocky structure; slightly hard, friable, slightly sticky and plastic; moderately smeary; many fine roots; many very fine tubular pores; common fine concretions; strongly acid (pH 5.2); clear smooth boundary.
Bw1—10 to 17 inches; dark brown (7.5YR 4/4) medial silty clay loam, reddish yellow (5YR 6/6) dry; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and plastic; weakly smeary; many fine roots; many very fine tubular pores; very strongly acid (pH 4.8); clear smooth boundary.
Bw2—17 to 26 inches; strong brown (7.5YR 4/6) medial silty clay loam, reddish yellow (5YR 6/6) dry; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and plastic, weakly smeary; common fine roots; many very fine tubular pores; very strongly acid (pH 4.8); clear smooth boundary.
Bw3—26 to 45 inches; strong brown (7.5YR 4/6) medial silty clay loam, reddish yellow (5YR 6/6) dry; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and plastic; weakly smeary; common fine roots; many very fine tubular pores; very strongly acid (pH 4.8); clear smooth boundary.
Bw4—45 to 61 inches; strong brown (7.5YR 4/6) medial silty clay loam, reddish yellow (5YR 6/6) dry; weak coarse subangular blocky structure; slightly hard, friable, slightly sticky and plastic; weakly smeary; common fine roots; many very fine tubular pores; common discontinuous distinct clay films in pores and on peds; very strongly acid (pH 4.6).

Typical Pedon Location

Map unit in which located: Tolke medial silt loam, 5 to 30 percent slopes; Washington County, Oregon
Location: In an area of forestland about 4 miles southeast of the summit of State Highway 6; about 2,500 feet south and 400 feet east of the northwest corner of section 9, T. 1 N., R. 5 W.

Range in Characteristics

Profile
Depth to bedrock—more than 60 inches
Hue—10YR or 7.5YR
Consistence—weakly smeary or moderately smeary throughout

A horizon
Value—2 to 4 moist, 4 or 5 dry
Chroma—2 to 4 moist, 3 to 6 dry

Texture—medial silt loam
Content of clay—-18 to 27 percent (apparent, by field estimates)
Content of rock fragments—0 to 5 percent gravel
Reaction—very strongly acid or strongly acid

Bw horizon
Value—3 to 6 moist, 4 to 8 dry
Chroma—4 or 6 moist, 6 to 8 dry
Texture—medial silty clay loam or medial silt loam
Content of clay—20 to 35 percent (apparent, by field estimates)
Reaction—very strongly acid throughout

Tolovana Series

Depth class: Very deep
Drainage class: Well drained
Landform: Hills and mountains
Parent material: Colluvium and residuum derived from tuffaceous sedimentary rock
Slope range: 3 to 85 percent
Elevation: 50 to 1,800 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Taxonomic classification: Medial over loamy, ferrihydritic over isotic, isomesic Typic Fulvudands

Typical Pedon

Oi—0 to 1 inch; slightly decomposed plant material; abrupt smooth boundary.

A1—1 to 6 inches; very dark brown (10YR 2/2) medial silt loam, dark brown (10YR 3/3) dry; moderate fine and medium granular structure; slightly hard, friable, nonsticky and nonplastic; weakly smeary; many very fine and fine and common medium and coarse roots; many very fine irregular pores; very strongly acid (pH 4.6); clear smooth boundary.

A2—6 to 9 inches; very dark grayish brown (10YR 3/2) medial silt loam, dark brown (10YR 3/3) dry; moderate fine and medium granular structure; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; many very fine and fine and common medium and coarse roots; many very fine irregular pores; very strongly acid (pH 4.8); clear smooth boundary.

A3—9 to 20 inches; dark brown (10YR 3/3) medial silt loam, brown (10YR 5/3) dry; moderate very fine and fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; common very fine, fine, medium, and coarse roots; many very fine irregular and tubular pores; very strongly acid (pH 4.8); clear smooth boundary.

2Bw1—20 to 27 inches; dark yellowish brown (10YR 3/4) silty clay loam, light yellowish brown (10YR 6/4) dry; moderate fine and medium subangular blocky structure; slightly hard, friable, moderately sticky and slightly plastic; common very fine, fine, medium, and coarse roots; many very fine tubular pores; very strongly acid (pH 4.8); clear smooth boundary.

2Bw2—27 to 38 inches; dark yellowish brown (10YR 4/6) silty clay loam, yellow (10YR 7/6) dry; moderate fine and medium subangular blocky structure; moderately hard, firm, moderately sticky and moderately plastic; common very fine and fine roots; many very fine tubular pores; 10 percent siltstone paragravel; very strongly acid (pH 4.6); clear smooth boundary.

2Bw3—38 to 48 inches; dark yellowish brown (10YR 4/6) paragravelly clay loam, yellow (10YR 7/6) dry; moderate fine and medium subangular blocky structure; moderately hard, friable, moderately sticky and moderately plastic; few very fine and fine roots; common very fine tubular pores; 20 percent siltstone paragravel; very strongly acid (pH 4.5); clear smooth boundary.

2BC—48 to 60 inches; yellowish brown (10YR 5/6) very paragravelly clay loam, light yellowish brown (10YR 7/6) dry; moderate fine and medium subangular blocky structure; moderately hard, firm, sticky and plastic; few very fine roots; common very fine tubular pores; 40 percent siltstone paragravel; extremely acid (pH 4.4).

Typical Pedon Location

Map unit in which located: Tolovana-Templeton medial silt loams, 5 to 30 percent slopes

Location in survey area: In an area of forestland about 4.8 miles north of Rose Lodge, Oregon; about 1,700 feet west and 950 feet south of the northeast corner of section 2, T. 6 S., R. 10 W.

Range in Characteristics

Profile

Depth to bedrock—more than 60 inches

Thickness of umbric epipedon—18 to 36 inches

A horizon

Hue—10YR or 7.5YR

Value—2 or 3 moist, 3 to 5 dry

Chroma—1 to 3 moist, 2 or 3 dry

Texture—medial silt loam

Content of clay—15 to 20 percent (apparent, by field estimates)

Content of rock and pararock fragments—0 to 10 percent gravel, 0 to 10 percent cobbles, 0 to 10 percent paragravel, and 0 to 5 percent paracobbles

Reaction—very strongly acid or strongly acid

Consistence—weakly smeary or moderately smeary

Bw horizon, where present

Hue—10YR or 7.5YR

Value—3 or 4 moist, 4 to 6 dry

Chroma—3 or 4 moist or dry

Texture—medial silt loam, silty clay loam, or clay loam

Content of clay—20 to 35 percent (apparent, by field estimates)

Content of rock and pararock fragments—0 to 10 percent gravel, 0 to 10 percent cobbles, 0 to 10 percent paragravel, and 0 to 5 percent paracobbles

Reaction—very strongly acid or strongly acid

Consistence—weakly smeary or moderately smeary

2Bw horizon

Hue—10YR or 7.5YR

Value—3 or 4 moist, 4 to 6 dry

Chroma—3 to 6 moist or dry

Texture—silty clay loam, clay loam, or paragravelly clay loam

Content of clay—27 to 35 percent (by field estimates)

Content of rock and pararock fragments—0 to 10 percent gravel, 0 to 10 percent cobbles, 0 to 20 percent paragravel, and 0 to 10 percent paracobbles

Reaction—very strongly acid or strongly acid

2BC and 2C horizons, where present
Value—4 or 5 moist, 5 or 6 dry
Chroma—4 to 6 moist or dry
Texture—very paragravelly clay loam, very paragravelly loam, paragravelly clay loam, loam, clay loam, cobbly clay loam, or cobbly loam
Content of clay—20 to 35 percent
Content of rock and pararock fragments—0 to 20 percent gravel, 0 to 15 percent cobbles, 0 to 45 percent paragravel, and 0 to 15 percent paracobbles
Reaction—extremely acid to strongly acid

Typic Fulvudands

Depth class: Very deep
Drainage class: Well drained
Landform: Stream terraces and alluvial fans in narrow coastal valleys
Parent material: Alluvium derived from igneous rock (terraces) and debris flow deposits derived from igneous rock (fans)
Slope range: 0 to 15 percent
Elevation: 100 to 600 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Taxonomic classification: Isomesic Typic Fulvudands

Reference Pedon

Oi—0 to 1 inch; slightly decomposed plant material; abrupt smooth boundary.
A1—1 to 8 inches; very dark brown (7.5YR 2.5/2) medial loam, brown (10YR 5/3) dry; moderate very fine granular and subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; moderately smeary; many very fine and fine and few medium roots; common fine irregular pores; 10 percent gravel; very strongly acid (pH 4.6); clear smooth boundary.
A2—8 to 21 inches; dark brown (7.5YR 3/2) medial loam, brown (10YR 5/3) dry; moderate very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; moderately smeary; many very fine and common fine roots; few fine tubular pores; 10 percent gravel; strongly acid (pH 5.4); clear smooth boundary.
Bw1—21 to 35 inches; dark brown (7.5YR 3/3) medial loam, brown (10YR 5/3) dry; moderate very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; moderately smeary; common very fine roots; few fine tubular pores; 10 percent gravel; strongly acid (pH 5.4); clear smooth boundary.
Bw2—35 to 45 inches; dark brown (7.5YR 3/4) very cobbly medial loam, yellowish brown (10YR 5/4) dry; moderate fine and very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; few very fine roots; few fine tubular pores; 15 percent gravel, 30 percent cobbles, and 5 percent stones; very strongly acid (pH 5.0); gradual wavy boundary.
C1—45 to 53 inches; dark brown (7.5YR 3/4) extremely cobbly loam, yellowish brown (10YR 5/4) dry; massive; moderately hard, firm, slightly sticky and slightly plastic; brittle; 40 percent gravel, 30 percent cobbles, and 5 percent stones; strongly acid (pH 5.4); gradual smooth boundary.
C2—53 to 61 inches; dark brown (7.5YR 3/2 and 3/3) extremely cobbly fine sandy loam, brown (10YR 5/3 and 4/3) dry; massive; slightly hard, very friable, slightly sticky and slightly plastic; 45 percent gravel, 25 percent cobbles, and 5 percent stones; strongly acid (pH 5.4).

Reference Pedon Location

Map unit in which located: Typic Fulvudands complex, 3 to 15 percent slopes
Location in survey area: In an area of forestland along the upper Kilchis River, just inside the northern boundary of Kilchis River County Park; about 100 feet north and 2,050 feet east of the southwest corner of section 16, T. 1 N., R. 9 W.

Range in Characteristics

Profile
Depth to bedrock—more than 60 inches
Thickness of umbric epipedon—10 to 24 inches
Depth to strongly contrasting textural stratification (stream terraces)—30 to 50 inches
Reaction—very strongly acid to moderately acid
Hue—7.5YR or 10YR
Content of clay in the particle-size control section—15 to 30 percent (apparent, by field estimates)
Content of rock fragments in the particle-size control section—5 to 85 percent
Depth to redoximorphic features (stream terraces)—below a depth of 40 inches, where present

A horizon
Value—2 or 3 moist, 3 to 5 dry
Chroma—2 or 3 moist, 2 to 4 dry
Texture—medial loam, medial silt loam, gravelly medial loam, or gravelly medial silt loam
Content of clay—15 to 25 percent (apparent, by field estimates)
Content of rock fragments—0 to 35 percent gravel and 0 to 10 percent cobbles, with 0 to 30 percent total
Consistence—weakly smeary or moderately smeary

Bw horizon
Value—3 or 4 moist, 4 or 5 dry
Chroma—3 or 4 moist or dry
Texture—medial loam, medial silt loam, cobbly medial clay loam, gravelly medial loam, gravelly medial silt loam, gravelly medial clay loam, very gravelly medial loam, extremely gravelly medial loam, or very cobbly medial loam
Content of clay—15 to 30 percent (apparent, by field estimates)
Content of rock fragments—5 to 60 percent gravel, 0 to 35 percent cobbles, and 0 to 10 percent stones, with 5 to 85 percent total
Consistence—weakly smeary or moderately smeary

C horizon (stream terraces only)
Value—3 or 4 moist, 4 or 5 dry
Chroma—2 to 4 moist, 3 or 4 dry
Texture—extremely cobbly loam, extremely cobbly loamy sand, extremely gravelly loamy sand, extremely cobbly fine sandy loam, or extremely cobbly sandy loam
Content of clay—3 to 25 percent
Content of rock fragments—35 to 75 percent gravel, 0 to 35 percent cobbles, and 0 to 10 percent stones, with 60 to 85 percent total

Udifluvents

Depth class: Very deep
Drainage class: Somewhat excessively drained
Landform: Flood plains

Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 0 to 3 percent
Elevation: 20 to 100 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Taxonomic classification: Isomesic Udifluvents

Reference Pedon

A—0 to 7 inches; very dark grayish brown (10YR 3/2) fine sandy loam, brown (10YR 5/3) dry; weak fine subangular blocky structure; soft to loose, very friable to loose, nonsticky and nonplastic; many very fine and common fine and medium roots; common very fine irregular and tubular pores; about 20 percent wood fragments 2 to 20 millimeters in size; moderately acid (pH 5.8); abrupt smooth boundary.
C1—7 to 38 inches; very dark grayish brown (10YR 3/2) sandy loam, dark brown and brown (10YR 3/3 and 4/3) dry; single grain; loose, nonsticky and nonplastic; common very fine and fine roots; few thin discontinuous lenses of leaves and bark; moderately acid (pH 5.8); gradual smooth boundary.
C2—38 to 60 inches; very dark grayish brown (10YR 3/2) loamy fine sand, dark brown and brown (10YR 3/3 and 4/3) dry; single grain; soft to loose; very friable, nonsticky and nonplastic; few very fine, fine, and medium roots; common discontinuous lenses and pockets of leaves and bark; moderately acid (pH 5.8).

Reference Pedon Location

Map unit in which located: Udifluvents-Riverwash-Water complex, 0 to 3 percent slopes
Location in survey area: In an area of native vegetation about 3 miles east of Tillamook, Oregon; about 1,650 feet east and 2,350 feet south of the northwest corner of section 22, T. 1 S., R. 9 W.

Range in Characteristics

Profile
Depth to bedrock—more than 60 inches
Reaction—very strongly acid to moderately acid

A horizon
Value—3 moist, 4 or 5 dry
Chroma—2 or 3 moist or dry
Texture—fine sandy loam, sandy loam, loamy fine sand, or loamy sand
Content of clay—3 to 15 percent
Content of wood fragments (2 to 75 millimeters in size)—0 to 25 percent in some pedons

C horizon
Value—3 moist, 3 to 5 dry
Chroma—2 or 3 moist or dry
Texture—sandy loam, loamy fine sand, loamy sand, or extremely gravelly loamy sand
Content of clay—3 to 10 percent
Content of rock fragments—0 to 75 percent gravel
Other feature—thin lenses or pockets of organic material or woody debris in some pedons

Udorthents

Depth class: Very deep
Drainage class: Somewhat poorly drained or somewhat excessively drained
Landform: Flood plains and stream terraces
Parent material: Alluvium derived from igneous and sedimentary rock and/or colluvium derived from igneous rock and transported material (urban fill)
Slope range: 0 to 7 percent
Elevation: 10 to 50 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees
Frost-free period: 160 to 260 days

Taxonomic classification: Isomesic Udorthents

Reference Pedon

A—0 to 2 inches; very dark brown (10YR 2/2) gravelly sandy loam, dark brown (10YR 3/3) dry; weak fine granular structure; soft, very friable, nonsticky and nonplastic; many very fine and fine roots; 30 percent gravel; strongly acid (pH 5.2); abrupt smooth boundary.
C—2 to 60 inches; very dark grayish brown (10YR 3/2) very gravelly sandy loam, grayish brown (10YR 5/2) dry; single grain; nonsticky and nonplastic; common very fine and fine roots; 55 percent gravel; very strongly acid (pH 4.6).

Reference Pedon Location

Map unit in which located: Urban land-Udorthents complex, 0 to 7 percent slopes
Location in survey area: In an area of managed vegetation in Lumberman's Park in Garibaldi, Oregon; about 2,200 feet south and 1,500 feet west of the northeast corner of section 21, T. 1 N., R. 10 W.

Range in Characteristics

Profile
Depth to bedrock—more than 60 inches
Depth to seasonal high water table (flooded phase only)—14 to 41 inches
Reaction—extremely acid to moderately acid

A horizon
Value—2 to 4 moist or dry
Chroma—2 to 4 moist or dry
Texture—gravelly sandy loam, gravelly loam, very gravelly loam, sandy loam, silt loam, loam, clay loam, or very gravelly clay loam
Content of clay—5 to 30 percent
Content of rock fragments—0 to 60 percent gravel and 0 to 10 percent cobbles

C horizon
Value—2 to 6 moist or dry
Chroma—2 to 4 moist or dry
Texture—very gravelly sandy loam, sandy loam, loamy sand, very gravelly loamy sand, extremely gravelly loamy sand, extremely gravelly loam, very gravelly clay loam, silty clay loam, or clay loam
Content of clay—5 to 35 percent
Content of rock fragments—0 to 85 percent gravel and 0 to 10 percent cobbles

Udorthents, steep

Depth class: Moderately deep to shallow
Drainage class: Well drained
Landform: Mountains
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 60 to 100 percent
Elevation: 10 to 300 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees
Frost-free period: 120 to 210 days

Taxonomic classification: Isomesic Udorthents

Reference Pedon

Oi—0 to 1 inch; slightly decomposed plant material; abrupt smooth boundary.
A—1 to 4 inches; dark brown (10YR 3/3) sandy loam, yellowish brown (10YR 5/4) dry; weak fine and very fine granular structure; soft, very friable, nonsticky and nonplastic; common very fine and fine roots; many interstitial pores; 5 percent sandstone paragravel; extremely acid (pH 4.2); clear wavy boundary.
C—4 to 23 inches; mixed brown (10YR 4/3) and dark yellowish brown (10YR 4/4) paragravelly sandy loam, light yellowish brown (10YR 6/4) dry; massive to single grain; soft, very friable, nonsticky and nonplastic; few very fine and fine roots; many interstitial pores; 20 percent sandstone paragravel and 5 percent sandstone paracobbles; very strongly acid (pH 4.6); abrupt irregular boundary.
Cr—23 inches; moderately weathered sandstone.

Reference Pedon Location

Map unit in which located: Udorthents-Rock outcrop complex, 60 to 100 percent slopes
Location in survey area: In an area of native vegetation on the south side of Tillamook Bay, Oregon; about 1,150 feet south and 1,450 feet east of the northwest corner of section 8, T. 1 S., R. 10 W.

Range in Characteristics

Profile
Depth to bedrock—10 to 40 inches
Reaction—extremely acid to strongly acid

A horizon
Value—3 or 4 moist, 3 to 5 dry
Chroma—2 to 6 moist or dry
Texture—sandy loam
Content of clay—5 to 15 percent
Content of pararock and rock fragments—0 to 10 percent paragravel, 0 to 10 percent paracobbles, 0 to 10 percent gravel, 0 to 10 percent cobbles, and 0 to 10 percent stones

C horizon
Value—4 to 6 moist or dry
Chroma—3 to 8 moist or dry
Texture—sandy loam, paragravelly sandy loam, paracobbly sandy loam, or very paragravelly sandy loam
Content of clay—5 to 15 percent
Content of pararock and rock fragments—0 to 60 percent paragravel, 0 to 10 percent paracobbles, 0 to 10 percent gravel, 0 to 10 percent cobbles, and 0 to 10 percent stones

Waldport Series

Depth class: Very deep
Drainage class: Excessively drained
Landform: Waldport—stable sand dunes, some on marine terraces; Waldport, thin surface—foredunes, blowouts, recently stabilized sand dunes, and sand dunes on marine terraces
Parent material: Eolian sand
Slope range: 0 to 90 percent
Elevation: Waldport—10 to 400 feet; Waldport, thin surface—10 to 50 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 180 to 300 days

Taxonomic classification: Mixed, isomesic Typic Udipsamments

Typical Pedon

A1—0 to 2 inches; very dark gray (10YR 3/1) fine sand, gray (10YR 5/1) dry; single grain; loose, nonsticky and nonplastic; many very fine and fine and common medium and coarse roots; strongly acid (pH 5.4); clear smooth boundary.
A2—2 to 6 inches; very dark grayish brown (10YR 3/2) fine sand, gray (10YR 6/1) dry; single grain; loose, nonsticky and nonplastic; many very fine and common fine, medium, and coarse roots; moderately acid (pH 5.6); clear smooth boundary.
AC—6 to 18 inches; pale brown (10YR 5/3) fine sand, light brownish gray (10YR 6/2) dry; single grain; loose, nonsticky and nonplastic; common very fine, fine, and medium roots; moderately acid (pH 5.8); clear wavy boundary.
C—18 to 60 inches; pale brown (10YR 5/6) fine sand, light gray (10YR 7/2) dry; single grain; loose, nonsticky and nonplastic; few very fine and fine roots; moderately acid (pH 6.0).

Typical Pedon Location

Map unit in which located: Waldport fine sand, 5 to 30 percent slopes
Location in survey area: In an area of forestland about 2 miles southwest of the community of Sandlake, Oregon; about 900 feet south and 2,700 feet west of the northeast corner of section 30, T. 3 S., R. 10 W.

Range in Characteristics

Profile
Depth to bedrock—more than 60 inches
Reaction—strongly acid or moderately acid

A horizon
Hue—10YR to 2.5YR
Value—2 to 4 moist, 5 or 6 dry
Chroma—1 or 2 moist or dry
Texture—fine sand
Content of clay—1 to 5 percent

AC horizon, where present
Hue—10YR to 2.5YR
Value—3 to 5 moist, 4 to 7 dry
Chroma—2 to 4 moist or dry
Texture—fine sand
Content of clay—1 to 5 percent
Other feature—few weakly cemented yellowish brown (10YR 5/4) to brown (10YR 5/3) nodules in some pedons

C horizon
Hue—10YR to 5Y
Value—3 to 6 moist, 4 to 7 dry
Chroma—3 or 4 moist, 1 to 4 dry
Texture—fine sand
Content of clay—1 to 5 percent

Walluski Series

Depth class: Very deep
Drainage class: Moderately well drained
Landform: Coastal fluviomarine terraces and coastal valley stream terraces
Parent material: Mixed alluvium and/or fluviomarine deposits derived from sedimentary rock
Slope range: 0 to 15 percent
Elevation: 20 to 300 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 300 days

Taxonomic classification: Fine-silty, isotic, isomesic Andic Oxyaquic Dystrudepts

Typical Pedon

Oi—0 to 2 inches; slightly decomposed plant material; abrupt smooth boundary.
A—2 to 13 inches; very dark brown (10YR 2/2) medial silt loam, dark grayish brown (10YR 4/2) dry; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; many very fine, fine, medium, and coarse roots; common very fine irregular pores; strongly acid (pH 5.2); clear wavy boundary.
Bw1—13 to 27 inches; dark yellowish brown (10YR 3/4) silty clay loam, yellowish brown (10YR 5/4) dry; weak fine subangular blocky structure; slightly hard, friable, moderately sticky and slightly plastic; few very fine, fine, medium, and coarse roots; common very fine tubular pores; strongly acid (pH 5.4); clear smooth boundary.
Bw2—27 to 36 inches; dark yellowish brown (10YR 4/4) silty clay loam, yellowish brown (10YR 5/4) dry; weak medium subangular blocky structure; moderately hard, firm, moderately sticky and moderately plastic; few very fine tubular pores; common medium distinct strong brown (7.5YR 4/6) iron masses and grayish brown (10YR 5/2) iron depletions; strongly acid (pH 5.4); clear smooth boundary.
2C—36 to 62 inches; mixed gray (2.5Y 6/1) and reddish yellow (7.5YR 6/8) silty clay loam, light gray (5Y 7/1) and reddish yellow (7.5YR 7/8) dry; massive; slightly hard, friable, slightly sticky and slightly plastic; strongly acid (pH 5.5).

Typical Pedon Location

Map unit in which located: Walluski medial silt loam, 0 to 7 percent slopes (fig. 121)
Location in survey area: In an area of forestland about 2 miles north of the community of Sandlake, Oregon; about 400 feet south and 2,100 feet east of the northwest corner of section 9, T. 3 S., R. 10 W.

Range in Characteristics

Profile
Depth to bedrock—more than 60 inches
Thickness of umbric epipedon—10 to 20 inches
Depth to redoximorphic features with chroma of 2 or less—24 to 40 inches

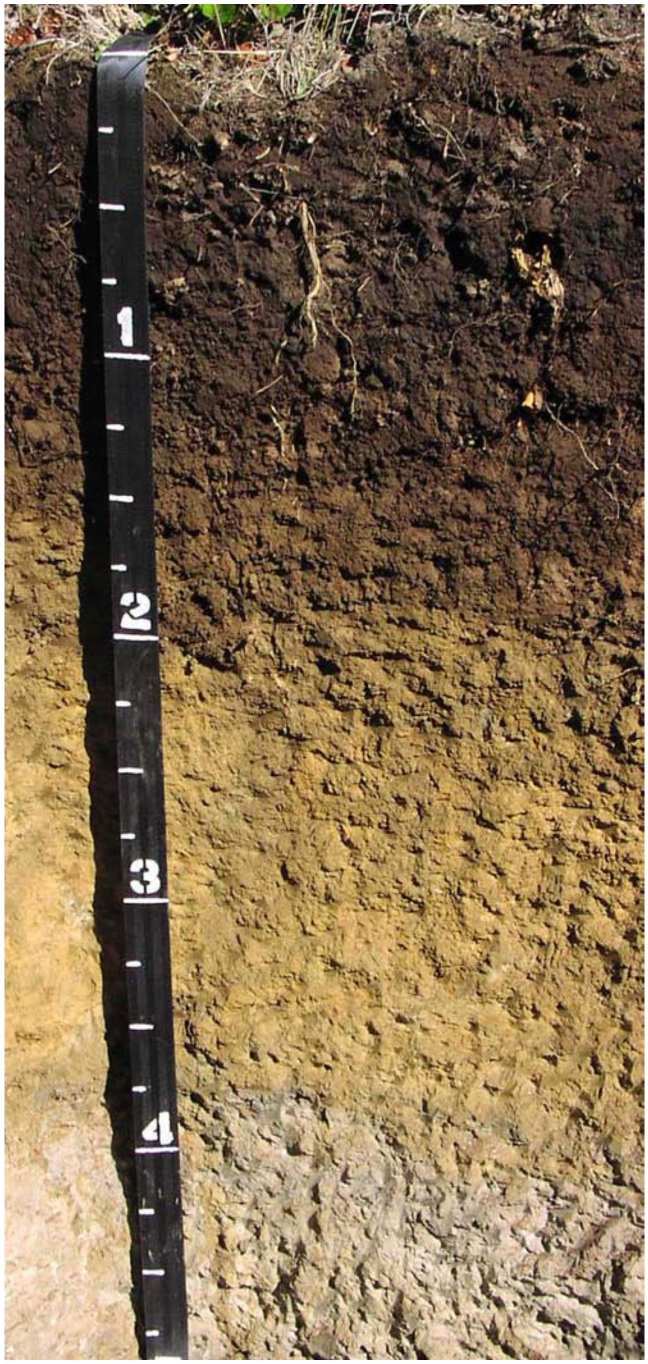

Figure 121.—Typical profile of Walluski medial silt loam, 0 to 7 percent slopes.

A and Ap horizons, where present
Value—2 or 3 moist, 4 or 5 dry
Chroma—2 or 3 moist or dry
Texture—medial silt loam
Content of clay—18 to 27 percent (apparent, by field estimates)
Reaction—extremely acid to moderately acid
Consistence—weakly smeary or moderately smeary

Bw horizon
Hue—10YR or 7.5YR
Value—3 to 5 moist, 5 or 6 dry
Chroma—3 to 5 moist or dry
Texture—silty clay loam or silt loam
Content of clay—22 to 35 percent
Reaction—extremely acid to strongly acid

2C horizon
Hue—2.5Y to 7.5YR
Value—5 or 6 moist, 6 or 7 dry
Chroma—1 to 8 moist or dry
Texture—silty clay loam, silty clay, or clay
Content of clay—27 to 45 percent
Reaction—extremely acid to strongly acid
Other feature—loamy below a depth of 40 inches in some pedons

Winema Series

Depth class: Very deep
Drainage class: Well drained
Landform: Hills
Parent material: Colluvium and residuum derived from sedimentary rock
Slope range: 5 to 35 percent
Elevation: 50 to 500 feet
Mean annual precipitation: 80 to 110 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 210 days

Taxonomic classification: Medial over clayey, ferrihydritic over isotic, isomesic Typic Fulvudands

Typical Pedon

Ap—0 to 10 inches; black (10YR 2/1) medial silt loam, dark gray (10YR 3/1) dry; strong very fine and medium granular structure; soft, friable, slightly sticky and slightly plastic; weakly smeary; many very fine roots throughout; many very fine and fine irregular pores; very strongly acid (pH 5.0); clear wavy boundary.

A—10 to 21 inches; black (10YR 2/1) medial silt loam, very dark gray (10YR 3/1) dry; moderate fine subangular blocky structure parting to strong fine and very fine granular; slightly hard, friable, slightly sticky and slightly plastic; weakly smeary; many very fine roots throughout; many very fine and fine pores; very strongly acid (pH 5.0); clear wavy boundary.

2BA—21 to 28 inches; dark brown (10YR 3/3) silty clay loam, brown (10YR 4/3) dry; strong very fine and fine subangular blocky structure; hard, firm, moderately sticky and moderately plastic; many very fine roots throughout; many very fine irregular pores; common black (10YR 2/1) distinct organic stains in pores and root channels and on some faces of peds; very strongly acid (pH 4.8); clear wavy boundary.

2Bw—28 to 42 inches; dark yellowish brown (10YR 4/4) silty clay, light yellowish brown (10YR 6/4) dry; strong fine subangular blocky structure; hard, firm, moderately sticky and moderately plastic; common very fine roots throughout; many very fine irregular pores; few very dark brown (10YR 2/2) distinct organic stains in pores and root channels; 5 percent siltstone paragravel; very strongly acid (pH 4.6); gradual smooth boundary.

2C—42 to 60 inches; mottled, yellowish brown (10YR 5/4) and grayish brown (2.5Y 5/2) very paragravelly silty clay, light yellowish brown (10YR 6/4) and

light brownish gray (2.5Y 6/2) dry; massive; hard, firm, moderately sticky and moderately plastic; 45 percent siltstone paragravel; very strongly acid (pH 4.8).

Typical Pedon Location

Map unit in which located: Winema-Fendall medial silt loams, 5 to 30 percent slopes
Location in survey area: In an area of pastureland about 800 feet south and 1,700 feet west of the northeast corner of section 34, T. 1 S., R. 9 W.

Range in Characteristics

Profile
Depth to bedrock—more than 60 inches
Thickness of umbric epipedon—20 to 30 inches

Ap, A, and AB horizons, where present
Hue—10YR
Value—2 or 3 moist, 3 dry
Chroma—1 or 2 moist or dry
Texture—medial silt loam or medial silty clay loam
Content of clay—20 to 30 percent (apparent, by field estimates)
Reaction—very strongly acid or strongly acid
Consistence—weakly smeary or moderately smeary

2BA horizon, where present
Hue—10YR
Value—2 or 3 moist, 3 to 5 dry
Chroma—2 or 3 moist or dry
Texture—silty clay loam
Content of clay—30 to 35 percent
Content of pararock fragments—0 to 10 percent paragravel
Reaction—very strongly acid

2Bw horizon
Hue—10YR
Value—3 or 4 moist, 4 or 5 dry
Chroma—3 to 6 moist or dry
Texture—silty clay loam, silty clay, paragravelly silty clay loam, or paragravelly silty clay
Content of clay—35 to 50 percent
Content of pararock fragments—0 to 30 percent paragravel
Reaction—very strongly acid

2BC and 2C horizons, where present
Hue—10YR or 2.5Y
Value—4 to 6 moist or dry
Chroma—2 to 6 moist, 2 to 8 dry
Texture—silty clay, silty clay loam, paragravelly silty clay, very paragravelly silty clay, or very paragravelly silty clay loam
Content of clay—35 to 50 percent
Content of pararock fragments—0 to 60 paragravel
Reaction—very strongly acid

Wolfer Series

Depth class: Very deep
Drainage class: Well drained
Landform: Stream terraces

Parent material: Silty alluvium over sandy and gravelly alluvium derived from igneous rock
Slope range: 0 to 15 percent
Elevation: 20 to 250 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Taxonomic classification: Medial over loamy-skeletal, ferrihydritic over isotic, isomesic Typic Fulvudands

Typical Pedon

Ap—0 to 8 inches; black (10YR 2/1) medial silt loam, dark brown (10YR 3/3) dry; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; moderately smeary; common very fine roots throughout; common very fine interstitial pores; 5 percent rounded gravel; moderately acid (pH 5.8); clear smooth boundary.
A—8 to 14 inches; black (10YR 2/1) medial silt loam, dark brown (10YR 3/3) dry; weak fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; moderately smeary; common very fine roots throughout; many very fine interstitial pores; 5 percent rounded gravel; strongly acid (pH 5.5); clear smooth boundary.
AB—14 to 22 inches; very dark grayish brown (10YR 3/2) medial silt loam, brown (10YR 4/3) dry; moderate medium and coarse subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; moderately smeary; few very fine roots throughout; many very fine interstitial pores; 5 percent rounded gravel; strongly acid (pH 5.2); abrupt wavy boundary.
Bw—22 to 35 inches; dark yellowish brown (10YR 4/4) medial silty clay loam, yellow (10YR 7/6) dry; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; moderately smeary; few very fine roots throughout; many very fine interstitial pores; 8 percent rounded gravel and 2 percent rounded cobbles; strongly acid (pH 5.3); clear wavy boundary.
2C—35 to 60 inches; dark yellowish brown (10YR 4/6) extremely gravelly loam, brownish yellow (10YR 6/6) dry; massive; nonsticky and nonplastic; intermittent weakly cemented lenses; 60 percent rounded gravel, 10 percent rounded cobbles, and 10 percent rounded paragravel; strongly acid (pH 5.4).

Typical Pedon Location

Map unit in which located: Wolfer medial silt loam, 3 to 15 percent slopes (fig. 122)
Location in survey area: In an area of pastureland about 1,900 feet east and 2,500 feet north of the southwest corner of section 14, T. 4 S., R. 10 W.

Range in Characteristics

Profile
Depth to bedrock—more than 60 inches
Thickness of umbric epipedon—12 to 24 inches
Depth to strongly contrasting textural stratification—24 to 36 inches
Hue—10YR or 7.5YR
Reaction—very strongly acid to moderately acid

Ap and A horizons
Value—2 or 3 moist, 3 to 5 dry
Chroma—1 or 2 moist, 1 to 3 dry
Texture—medial silt loam
Content of clay—12 to 25 percent (apparent, by field estimates)
Content of rock fragments—0 to 15 percent gravel
Consistence—weakly smeary or moderately smeary

Figure 122.—Typical profile of Wolfer medial silt loam, 3 to 15 percent slopes.

AB horizon, where present
Value—2 or 3 moist, 3 to 5 dry
Chroma—2 or 3 moist or dry
Texture—medial silt loam
Content of clay—12 to 27 percent (apparent, by field estimates)
Content of rock fragments—0 to 15 percent gravel
Consistence—weakly smeary or moderately smeary

Bw horizon
Value—3 or 4 moist, 5 to 7 dry
Chroma—4 to 6 moist or dry
Texture—medial silty clay loam, medial loam, gravelly medial clay loam, or gravelly medial loam

Content of clay—20 to 30 percent (apparent, by field estimates)
Content of rock fragments—0 to 35 percent gravel and 0 to 5 percent cobbles
Consistence—weakly smeary or moderately smeary

2C horizon
Value—3 to 5 moist, 3 to 6 dry
Chroma—3 to 6 moist or dry
Texture—extremely gravelly loam, extremely gravelly loamy sand, or extremely gravelly sandy loam
Content of clay—5 to 25 percent
Content of rock and pararock fragments—50 to 70 percent gravel, 0 to 15 percent cobbles, and 0 to 15 percent paragravel
Cementation—none to weakly cemented, stratified lenses in some pedons

Taxadjunct Feature

The Wolfer soils in this survey area are a taxadjunct to the Wolfer series because the typical pedon is classified as medial over loamy-skeletal instead of medial over sandy-skeletal. This difference, however, does not significantly affect use and management of the soils.

Woodspoint Series

Depth class: Deep
Drainage class: Well drained
Landform: Mountains
Parent material: Colluvium and residuum derived from igneous rock
Slope range: 5 to 60 percent
Elevation: 2,800 to 3,700 feet
Mean annual precipitation: 130 to 150 inches
Mean annual air temperature: 39 to 42 degrees F
Frost-free period: 40 to 80 days

Taxonomic classification: Medial, ferrihydritic Typic Fulvicryands

Typical Pedon

Oi—0 to 1 inch; slightly decomposed plant material; abrupt smooth boundary.
A1—1 to 7 inches; dark brown (7.5YR 3/2) medial silt loam, dark yellowish brown (10YR 3/4) dry; weak very fine granular structure; nonsticky and nonplastic; moderately smeary; many very fine and fine roots; few very fine irregular pores; 5 percent gravel and 5 percent diabase paragravel; discontinuous 0.25-inch layer of white volcanic ash about 1 inch below the soil surface; strongly acid (pH 5.4); clear smooth boundary.
A2—7 to 19 inches; dark brown (7.5YR 3/3) medial silt loam, yellowish brown (10YR 5/4) dry; weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; moderately smeary; many very fine and fine roots; few fine irregular pores; 5 percent gravel and 5 percent diabase paragravel; strongly acid (pH 5.4); clear smooth boundary.
Bw1—19 to 29 inches; brown (7.5YR 4/4) medial silt loam, brownish yellow (10YR 6/6) dry; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; moderately smeary; common fine roots; common fine irregular pores; 10 percent gravel and 5 percent diabase paragravel; very strongly acid (pH 5.0); clear smooth boundary.
Bw2—29 to 38 inches; brown (7.5YR 4/4) gravelly medial loam, brownish yellow (10YR 6/6) dry; weak fine subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; weakly smeary; few fine roots; common fine irregular

pores; 20 percent gravel, 5 percent cobbles, and 5 percent diabase paragravel; very strongly acid (pH 5.0); clear smooth boundary.

Bw3—38 to 49 inches; strong brown (7.5YR 4/6) gravelly medial silt loam, brownish yellow (10YR 6/6) dry; weak fine subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; weakly smeary; common fine irregular pores; 10 percent gravel, 5 percent cobbles, and 5 percent diabase paragravel; very strongly acid (pH 5.0); abrupt wavy boundary.

R—49 inches; diabase.

Typical Pedon Location

Map unit in which located: Sevencedars-Newanna-Woodspoint complex, 5 to 30 percent slopes

Location in survey area: In an area of forestland about 1.5 miles south of Woods Point; about 800 feet south and 400 feet west of the northeast corner of section 28, T. 1 N., R. 6 W.

Range in Characteristics

Profile

Depth to bedrock—40 to 60 inches

Thickness of umbric epipedon—10 to 20 inches

Hue—10YR or 7.5YR

Content of clay in the particle-size control section—10 to 25 percent (apparent, by field estimates)

Content of rock and pararock fragments in the particle-size control section—0 to 30 percent rock fragments and 0 to 5 percent pararock fragments

Consistence—weakly smeary or moderately smeary throughout

A1 horizon

Value—2 or 3 moist, 3 to 5 dry

Chroma—2 or 3 moist, 3 or 4 dry

Texture—medial silt loam

Content of clay—10 to 27 percent (apparent, by field estimates)

Content of rock and pararock fragments—0 to 10 percent gravel, 0 to 10 percent cobbles, and 0 to 15 percent paragravel

Reaction—strongly acid or moderately acid

A2 horizon

Value—2 or 3 moist, 3 to 5 dry

Chroma—2 or 3 moist, 3 or 4 dry

Texture—medial silt loam or medial loam

Content of clay—10 to 27 percent (apparent, by field estimates)

Content of rock and pararock fragments—0 to 10 percent gravel, 0 to 10 percent cobbles, and 0 to 15 percent paragravel

Reaction—strongly acid or moderately acid

Bw horizon

Value—3 or 4 moist, 4 to 6 dry

Chroma—3 or 4 moist, 4 to 8 dry

Texture—medial silt loam, medial loam, gravelly medial silt loam, gravelly medial loam, cobbly medial silt loam, paragravelly medial loam, or cobbly medial loam

Content of clay—10 to 27 percent (apparent, by field estimates)

Content of rock and pararock fragments—0 to 30 percent gravel, 0 to 25 percent cobbles, 0 to 10 percent stones, and 0 to 30 percent paragravel

Reaction—very strongly acid or strongly acid

Yachats Series

Depth class: Very deep
Drainage class: Well drained
Landform: Flood plains
Parent material: Alluvium derived from igneous and sedimentary rock
Slope range: 0 to 3 percent
Elevation: 10 to 400 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 160 to 260 days

Taxonomic classification: Coarse-loamy, mixed, superactive, isomesic Fluventic Humic Dystrudepts

Typical Pedon

Ap—0 to 9 inches; very dark grayish brown (10YR 3/2) very fine sandy loam, brown (10YR 5/3) dry; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine roots; common very fine tubular pores; moderately acid (pH 6.0); clear smooth boundary.

A—9 to 19 inches; dark brown (10YR 3/3) loam, brown (10YR 5/3) dry; moderate medium and fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine roots; many very fine tubular pores; moderately acid (pH 6.0); clear smooth boundary.

C1—19 to 39 inches; very dark grayish brown (10YR 3/2) fine sandy loam, brown (10YR 5/3) dry; massive; very soft to loose, very friable, nonsticky and nonplastic; common very fine roots; many very fine tubular pores; few thin discontinuous lenses of loamy fine sand; moderately acid (pH 6.0); gradual smooth boundary.

C2—39 to 54 inches; very dark grayish brown (10YR 3/2) fine sandy loam, brown (10YR 4/3) dry; massive; soft to loose, very friable, nonsticky and nonplastic; few very fine roots; many very fine tubular pores; few thin discontinuous lenses of loamy fine sand; moderately acid (pH 6.0); clear smooth boundary.

C3—54 to 60 inches; dark brown (10YR 3/3) very fine sandy loam, brown (10YR 5/3) dry; weak fine and very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; many very fine tubular pores; slightly acid (pH 6.0).

Typical Pedon Location

Map unit in which located: Yachats very fine sandy loam, 0 to 3 percent slopes
Location in survey area: In an area of pastureland about 2 miles northeast of Tillamook, Oregon; about 1,400 feet east and 1,100 feet south of the northwest corner of section 21, T. 1 S., R. 9 W.

Range in Characteristics

Profile
Depth to bedrock—more than 60 inches
Thickness of umbric epipedon—10 to 20 inches

Ap horizon
Value—2 or 3 moist, 4 or 5 dry
Chroma—2 or 3 moist or dry
Texture—very fine sandy loam
Content of clay—5 to 18 percent
Reaction—extremely acid to moderately acid

A horizon
Value—2 or 3 moist, 4 or 5 dry
Chroma—2 or 3 moist or dry
Texture—loam, silt loam, very fine sandy loam, or fine sandy loam
Content of clay—5 to 18 percent
Reaction—moderately acid

Bw horizon, where present
Value—3 or 4 moist, 5 or 6 dry
Chroma—3 or 4 moist or dry
Texture—loam, silt loam, or very fine sandy loam
Content of clay—5 to 15 percent
Reaction—moderately acid

C horizon
Value—3 to 5 moist, 5 or 6 dry
Chroma—2 to 4 moist or dry
Texture—very fine sandy loam, fine sandy loam, or loamy fine sand
Content of clay—5 to 15 percent
Reaction—moderately acid
Other feature—thin, discontinuous lenses of loamy fine sand or coarser material in some pedons

Yaquina Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Landform: Depressions of interdunes
Parent material: Eolian sand
Slope range: 0 to 5 percent
Elevation: 10 to 30 feet
Mean annual precipitation: 80 to 100 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 180 to 300 days

Taxonomic classification: Sandy, isotic, isomesic Typic Endoaquods

Typical Pedon

Oi—0 to 1 inch; slightly decomposed plant material; abrupt smooth boundary.
E—1 to 7 inches; gray (10YR 5/1) loamy fine sand, light gray (10YR 7/1) dry; single grain; loose, nonsticky and nonplastic; many very fine, fine, and medium roots; many very fine irregular pores; very strongly acid (pH 4.8); clear wavy boundary.
Bs1—7 to 15 inches; dark grayish brown (2.5Y 4/2) fine sand, light brownish gray (2.5Y 6/2) dry; many olive brown (2.5Y 4/4) and light olive brown (2.5Y 5/4) sand grains; single grain; loose, nonsticky and nonplastic; common very fine, fine, and medium roots; many very fine irregular pores; common firm yellowish red (5YR 5/6) iron-cemented nodules; very strongly acid (pH 5.0); gradual wavy boundary.
Bs2—15 to 31 inches; grayish brown (2.5Y 5/2) fine sand, light brownish gray (2.5Y 6/2) dry; few olive brown (2.5Y 4/4) sand grains; single grain; loose, nonsticky and nonplastic; few very fine and fine roots; many very fine irregular pores; common coarse and few medium distinct pale brown (10YR 6/3) and prominent yellowish brown (10YR 5/6) masses of iron accumulation; common medium and fine soft yellowish red (5YR 5/6) iron-cemented nodules; strongly acid (pH 5.4); gradual wavy boundary.

C—31 to 61 inches; variegated light olive brown (2.5Y 5/4), pale brown (10YR 6/3), dark reddish gray (5YR 4/2), and pinkish gray (5YR 6/2) fine sand, light gray (10YR 7/2) dry; single grain; loose, nonsticky and nonplastic; strongly acid (pH 5.2).

Typical Pedon Location

Map unit in which located: Yaquina loamy fine sand, 0 to 5 percent slopes
Location in survey area: In an area of native vegetation about 1 mile southwest of Nehalem, Oregon; about 2,220 feet south and 300 feet east of the northwest corner of section 28, T. 3 N., R. 10 W.

Range in Characteristics

Profile
Depth to bedrock—more than 60 inches
Other feature—saturated below a depth of 20 inches for extended periods during the year and saturated to the surface for brief periods

E horizon
Value—3 to 6 moist, 6 to 8 dry
Chroma—1 or 2 moist or dry
Texture—loamy fine sand
Content of clay—1 to 5 percent
Reaction—very strongly acid or strongly acid

Bs horizon
Hue—2.5Y to 7.5YR
Value—4 or 5 moist, 5 or 6 dry
Chroma—2 or 3 moist or dry
Texture—fine sand
Content of clay—1 to 2 percent
Redoximorphic features—faint to prominent masses of iron accumulation; few to common iron-cemented nodules 2 to 10 millimeters in size in most pedons
Reaction—very strongly acid to moderately acid

BC horizon, where present
Hue—2.5Y to 7.5YR
Value—4 or 5 moist, 5 or 6 dry
Chroma—2 or 3 moist or dry
Texture—fine sand or sand
Content of clay—1 to 2 percent
Reaction—very strongly acid or strongly acid

C horizon
Hue—2.5Y to 10YR
Value—4 to 6 moist or dry
Chroma—2 to 4 moist or dry
Texture—fine sand or sand
Content of clay—1 to 2 percent
Reaction—very strongly acid or strongly acid
Other feature—buried finer textured material below a depth of 40 inches in some pedons

Formation of the Soils

Dr. Frank F. Reckendorf, retired sedimentation geologist, Natural Resources Conservation Service, assisted in preparing this section.

Soil is a natural, three-dimensional body on the earth's surface consisting of layers of mineral or organic material that support plants. Its characteristics and properties have been determined by physical and chemical processes that result from the interaction of five factors—climate, living organisms, time, topography, and parent material (Parsons and others, 1968). The influence of any one of these factors varies from place to place, but the interaction of all the factors determines the kind of soil that forms.

The soils in this survey area have been greatly influenced by climate. Moist marine air moving inland from the Pacific Ocean moderates extremes in the diurnal and annual air and soil temperature in winter and summer. The result is a long but cool growing season in the coastal areas, which make up the isomesic zone, or coastal fogbelt. Farther inland, the moderating influence of moist marine air diminishes and the extremes in air and soil temperature increase. These inland areas of the Coast Range and associated river valleys have a shorter but warmer growing season.

The characteristics of the parent material, the period of time parent material has been in place, and the topography of the landscape greatly influence the kinds of soil that develop on a given landform. Soils derived from igneous rock have different physical and chemical properties than do those derived from sedimentary rock. Soils that formed in colluvium differ from those that formed in residuum. Soil-forming processes vary depending on the landform. The characteristics of alluvial soils are different than those of colluvial or residual soils. The nature of the processes involved in soil formation is significantly different; alluvial soils form in a depositional environment, and colluvial soils form in an erosional environment.

In this section, the soil-forming factors of climate and living organisms are discussed separately. Factors of time, topography, and parent material are discussed under the heading "Geomorphic Surfaces and Soil Development."

Climate and Living Organisms

Climate strongly influences soil formation by controlling the chemical and physical reactions in soil. Temperature and moisture influence the chemical and physical characteristics of soils by influencing the rate of chemical reactions, the weathering of minerals and material in a soil horizon, and the transport of material from one horizon to another. The kind of vegetation that grows in an area and its rate of growth; the activity and abundance of insects, animals, soil microbes, and fungi; and the rate of accumulation and decay of organic matter are all influenced by climate.

Living organisms, especially the higher plants, are an active factor in soil formation. The changes that result depend on the life processes peculiar to each organism. The kinds of organisms that live on and in the soil are determined by climate, topography, age of the soil, and parent material.

Plants actively influence soil formation by providing a root system and cover for holding soil particles together to resist erosion. Leaves, twigs, roots, and the remains

of entire plants accumulate on the surface of soils and are decomposed by animals, insects, and micro-organisms, which returns valuable organic matter to the soil. Plant roots widen cracks in the underlying rock, allowing water to penetrate. The uprooting of trees by wind mixes soil layers, loosens the underlying material, and brings weathered rock and other mineral material to the surface.

Organisms such as insects, fungi, earthworms, micro-organisms, and burrowing animals accelerate the decomposition of organic matter by consuming and digesting the remains of plants. Insects, micro-organisms, and earthworms feed on plant remains at the surface and on organic matter in the upper few inches of soil. They slowly but continually alter the physical and chemical properties of organic matter and aid in mixing it with mineral material. Bacteria, fungi, and other micro-organisms hasten the weathering of rock into mineral soil particles. Small animals burrow into the soil, which mixes the soil layers.

Two major land resource areas (MLRAs) are in the survey area—Northern Pacific Coast Range, Foothills, and Valleys (MLRA 1) and Sitka Spruce Belt (MLRA 4A) (USDA, 2006). Within these two MLRAs, three major climatic zones, including five distinct soil temperature regimes (see fig. 55), are recognized.

- Isomesic soil temperature regime—areas that have cool, wet winters and cool, moist summers
- Mesic soil temperature regime—areas that have cool, wet winters and warm, moist summers
- Isofrigid, frigid, and cryic soil temperature regimes—areas that have cold, wet winters and cool, moist summers.

All of these temperature regimes are in the udic soil moisture regime (Soil Survey Staff, 1999 and 2006). The climate greatly influences soil genesis and the use and management of the soils.

The coastal fogbelt represents the isomesic and isofrigid soil temperature regimes. Fogbelt is a general term used for the coastal area that is influenced by fog, low clouds, and cool, moist marine air in summer (see fig. 12). The fogbelt extends from the Pacific Ocean to as far as 18 miles inland along the rivers and in low-lying areas.

At elevations from about sea level to 1,800 feet, the areas on the coastal lowlands, marine terraces, dunes, coastal valley flood plains and stream terraces, and low hills and mountains are in the isomesic soil temperature zone and have cool, wet winters and cool, moist summers. The growing season is year round. The soils in this zone are in general soil map units 1, 2, 3, 4, 5, 6, 7, 8, and 9. The native vegetation is that of the Sitka spruce (*Picea sitchensis)* zone (Franklin and Dyrness, 1973). The plant community consists primarily of conifers such as Sitka spruce, western hemlock, Douglas-fir, western redcedar, and in areas adjacent to the Pacific Ocean, shore pine. Red alder is the most abundant hardwood in more recently disturbed areas. The abundant moisture and modified air and soil temperatures in the fogbelt result in a cool, long growing season that promotes a large accumulation of organic matter in the soil profile (fig. 123). The high rainfall promotes extensive leaching of bases, resulting in low base saturation of the soils. Conifers also absorb the bases and do not readily return them to the soil. Typic Fulvudands, such as Klootchie soils, and Andic Dystrudepts, such as Templeton soils, formed under these conditions.

Within the coastal fogbelt are mountains that rise above the surrounding areas. These high coastal mountains are in the isofrigid soil temperature zone. Elevation ranges from about 1,600 to 3,000 feet. Cold, wet winters and cool, moist summers with fog and low clouds are typical. The soils in this zone are in general soil map unit 14. The vegetation in the isofrigid zone is similar to that of the much higher Pacific silver fir zone. The dominant trees are noble fir, western hemlock, Douglas-fir, and a few scattered Pacific silver fir. Sitka spruce is also common throughout this zone and is abundant in many areas.

Figure 123.—Accumulation of organic material in soil profile.

The interior mountainous areas at the lower elevations in the survey area have cool, wet winters and warm, moist summers. These areas are in the mesic soil temperature zone and include the narrow valleys and mountains. Elevation ranges from 200 to 2,200 feet. The soils in this zone are in general soil map units 10, 11, 12, and 13. The native vegetation is in the western hemlock (*Tsuga heterophylla)* zone (Franklin and Dyrness, 1973). The plant community is primarily conifers, including western hemlock, Douglas-fir, and western redcedar. Red alder and bigleaf maple are the most abundant hardwood species. Precipitation generally is high in winter. The moderating effects of the cool, moist marine air on the air and soil temperature are less direct in these areas. The growing season is somewhat shorter and warmer than that of the

isomesic zone, and the soils dry out more in summer. Accumulations of organic matter are thick enough to allow for formation of an umbric epipedon in most of the soils, but the content of organic matter is less than that of the soils in the fogbelt. The high precipitation in winter results in extensive leaching of bases; thus, the soils have low base saturation. Alic Hapludands, such as Hemcross and Klistan soils, formed under these conditions.

At elevations above 1,800 feet, in the interior Coast Range, winters are cold and wet and summers are cool and moist. Soils that formed in these areas have a frigid or cryic soil temperature regime. The frigid soil temperature regime is at elevations of 1,800 to 3,000 feet. The soils in these areas are in general soil map unit 15. The cryic soil temperature regime is in areas of the higher elevation peaks and ridges of the interior mountains. Elevation ranges from 2,800 to 3,700 feet. The soils in these areas are in general soil map unit 16.

The native vegetation is transitional from the western hemlock (*Tsuga heterophylla)* zone to the Pacific silver fir (*Abies amabilis)* zone (Franklin and Dyrness, 1973). It consists primarily of conifers such as western hemlock, Douglas-fir, noble fir, and scattered Pacific silver fir. The dominance of noble fir and Pacific silver fir increases as elevation increases. Precipitation is high in winter, and snow may cover the area for short periods in December through March. In summer, the soils at the higher elevations dry out for brief periods. The growing season is short, the growth rate of trees is slower, and damage to trees by wind, snow, and ice is common. Pachic Fulvudands, such as Mosscreek soils, formed in the isofrigid zone; Alic Hapludands, such as Caterl soils, formed in the frigid zone; and Typic Fulvicryands, such as Sevencedars soils, formed in the cryic zone.

Geomorphic Surfaces and Soil Development

The characteristics of parent material greatly influence the kinds of soil that form. Soils that formed in colluvium and residuum derived from igneous material associated with geologic rock units in the Coast Range, such as the Tillamook Volcanics, have characteristics such as low bulk density, high liquid limit, low plasticity, high available water capacity, and high cation-exchange capacity (fig. 124) (Wells and others, 1994). In addition, these soils have a significantly higher content of organic matter (USDA, 2005 and 2009; Green, 1983; Langridge, 1987; Patching, 1987; USDA, 1988; USDA, 1997). Soils that formed in colluvium derived from siltstone and sandstone associated with sedimentary rock units such as the Alsea Formation exhibit similar properties in the surface layer (Snavely and others, 1996). Characteristics of the subsoil, however, are lower liquid limit, higher plasticity, and lower cation-exchange capacity.

The period of time parent material has been in place also influences soil formation. Soils that formed in recent alluvium on flood plains generally have minimal profile development. Characteristics include the presence of an umbric epipedon, a thin, weakly expressed cambic horizon, and an irregular decrease in the content of organic carbon as depth increases, as a result of frequent deposits of alluvium. Soils that formed in older alluvium on terraces have characteristics typical of stronger profile development, including a considerably thicker mollic or umbric epipedon, a thick cambic or argillic horizon, and a regular decrease in the content of organic carbon. Soils on the coastal plain terraces have been strongly influenced by the sandy parent material of the old, stabilized dunes.

The topography of the survey area includes rugged, dominantly steep or very steep mountain slopes and areas of Rock outcrop that remained after uplift and erosion of the Eocene volcanic terrane of the northern Oregon Coast Range. The core of the uplift consists of Eocene basalt and interbedded marine strata that were previously correlated with the Siletz River Volcanics and form the oceanic basement level of the Oregon Coast Range (fig. 125) (Wells and others, 1989; Snavely and others, 1968). Field investigations and current knowledge have led to better understanding of the

Figure 124.—Example of the Tillamook Volcanics geology.

geologic and tectonic processes in this area; thus, a distinction between the lower Eocene Siletz River Volcanics terrane (previously recognized in the central Oregon Coast Range) and the overlying Tillamook Volcanics terrane of the late-middle Eocene (known locally as Tillamook Highlands) is now recognized (fig. 126). Marine mudstone and sandstone are interbedded with all of the volcanic units and comprise most of the late Eocene to Miocene stratigraphy that forms the flanks of the Coast Range uplift (fig. 127). These include areas of the lower Eocene Trask River siltstone (fig. 128), the deep-water strata of the middle Eocene Tyee and Yamhill Formations, late Eocene mudstone of the Nestucca Formation, tuffaceous mudstone of the late Eocene to early Miocene Alsea Formation, and early to middle Miocene strata of the Astoria Formation. Grand Ronde Basalt from the Columbia River Basalt Group flowed into the northern coastal regions through an ancestral Columbia River drainageway (fig. 129) (Snavely and others, 1973; Choiniere and Swanson, 1979; Niem and Niem, 1985; Beeson and others, 1985).

Beginning in the late-middle Miocene, the northern Oregon Coast Range was uplifted in a broad, northeast-trending arch. Along the direction of uplift, only strata of

Figure 125.—Example of the Siletz River Volcanics geology.

Figure 126.—Tillamook Volcanics terrane.

Figure 127.—Igneous and tuffaceous rock intermixed in the Tillamook Volcanics unit.

Figure 128.—Example of Trask River Formation siltstone.

Figure 129.—Area of Ascar soil derived from Grand Ronde basalt.

the Eocene or older has been preserved in the geologic record, although concordant summits of nearby ridges in the Coast Range may represent remnants of a late Tertiary erosional surface (Wells and others, 1994). Continental shelf and slope sequences are dominant in the basins flanking the Coast Range uplift, and Quaternary terrace deposits in coastal embayments and on headlands are evidence of several interglacial high sea level stands (Wells and others, 1992).

These terranes have been modified along the coastal margin by wavecut platforms, which are associated with high sea level stands that have been uplifted as a result of tectonic activity. Many of these platforms have also been modified by dune activity, which has resulted in additional topographic relief. The mouth of the estuaries also has been topographically modified by sand spits, beaches, and dunes.

Geomorphologists and others have identified, studied, and mapped coastal and valley geomorphic surfaces throughout Oregon and the Pacific Northwest (Balster and Parsons, 1966; Balster and Parsons, 1968; Balster and Parsons, 1969; Gelderman, 1970; Gelderman and Parsons, 1972; Glasmann and Kling, 1980; Glasmann and others, 1980; Goldin and Parsons, 1983; Hoppe, 1989; Nettleton and others, 1982; Parsons and others, 1970; Parsons and Herriman, 1976; Parsons and others, 1981; Reckendorf, 1993; Reckendorf and Parsons, 1966). They have also studied soil-geomorphic relationships in mountainous terrain (Balster and Parsons, 1965a; Balster and Parsons, 1965b; Parsons, 1978; Parsons and Balster, 1966; Parsons and Herriman, 1975). A sequence of geomorphic surfaces was recognized in the survey area. These surfaces, in sequence from youngest to oldest, are discussed in the following paragraphs. Coastal marine surface names and the comparable stream valley surface names are used. These surfaces range in age from recent Holocene to late Pleistocene and represent a sequence of landscape development.

Most of the flood plain and terrace landforms in the survey area are in the coastal isomesic zone. In this section, the geomorphic surface names developed for the Willamette Valley in Oregon are referenced since these surfaces were visually correlated to the survey area (Reckendorf, 1992, 1997, and 1998). The step sequence of geomorphic surfaces that occurs in the Willamette Valley is essentially the same as that of the survey area, with basically equivalent ranges in age and degree of soil development. Also described, but not considered a geomorphic surface, is the Looney geomorphic unit, which consists of steep, broken topography of the northern Coast Range. The soils on the narrow mountain valley flood plains and terraces are mapped as higher order complexes in both the isomesic and mesic soil temperature zones of the Looney unit. These soils are mapped at this level because of the limited extent of the geomorphic surface and the variable parent material.

Transects and traverses of these geomorphic surfaces during soil mapping revealed considerable variations in elevation and the probability that more than one episode of terrace development has occurred on the higher terraces. This is evidenced by the presence of at least one terrace strandline, or past sea level. Past sea levels derived from geologic records of abandoned or relict marine shorelines, such as the Whiskey Run or Pioneer terrace, can be used to measure long-term crustal movement by bracketing the rate of uplift within generalized periods of time. Pleistocene and Holocene strandlines commonly are evidence of past seismic episodes. Evidence in the strandlines, such as buried layers of peat in sandy horizons or drowned trees in lakes or bays, reveals the regular recurrence of earthquakes. Many estuaries and sloughs, including Netarts and Nehalem Bays, contain a record of episodic Holocene subsidence events thought to represent co-seismic deformation during large subduction zone earthquakes (fig. 130) (Atwater, 1987; Peterson and Darienzo, 1988; Grant and Minor, 1991). Correctly interpreting these relict strandlines leads to a more thorough understanding of coastal tectonics and paleoseismicity in coastal regions and ultimately helps to forecast future seismic events.

Figure 130.—Slough in Tillamook Valley.

Recent to Late Holocene Flood Plains and Coastal Dunes (Horseshoe and Ingram Surfaces)

In this survey area, the late Holocene flood plains mainly consist of the generally broad tidal lowlands at the mouth of major streams and narrow beaches along the Pacific Ocean. These flood plains have low relief and include the high salt marshes, stream channels, and associated features such as point bar deposits, channel fillings, abandoned meanders, sloughs, tidal flats, and beaches. Unless protected by dikes or tidegates, these areas are subject to frequent inundation during high tides (fig. 131). During the rainy season, freshwater flooding occurs over most of the diked tidelands. Isomesic Fluvaquentic Endoaquepts, such as the Coquille series, and Histosols and Fluvaquents are typical of soils that formed in the late Holocene sediment on tidal flood plains, estuaries, and freshwater and saltwater marshes (fig. 132). These very poorly drained and poorly drained soils have a very thin layer of dark-colored surface material, but they do not have cambic horizon development. In some areas, diking has improved conditions for soil development and a thin cambic horizon has developed in soils such as those of the Coquille series.

The Horseshoe surface is the lower of two flood plains in the alluvial valleys. It generally is considered to be within the annual flood plain. This surface probably began to develop after the survey area had been settled, as evidenced by metal artifacts found in the alluvium associated with the surface (Balster and Parsons, 1968; Parsons and Herriman, 1976). Isomesic Fluventic Humic Dystrudepts, such as the Gauldy and Yachats series, are typical of the somewhat excessively drained and well drained soils that formed on the low flood plains in the coastal alluvial valleys. Flooding is frequent, and minimal soil development has occurred. These soils have a thin umbric epipedon and a thin, weakly expressed cambic horizon. An irregular decrease

Figure 131.—Example of a tidegate.

Figure 132.—High salt marsh vegetation in an area of Fluvaquents-Histosols complex, 0 to 1 percent slopes.

in the content of organic carbon as a result of frequent deposits of recent alluvium is typical of the Fluvaquentic subgroups. The Oxyaquic subgroups, such as the isomesic Fulvudands and the mesic Hapludands, have groundwater within a depth of 40 inches of the soil surface for intervals of 20 consecutive days or more or 30 cumulative days or more when the soils are saturated.

The Ingram surface, or higher flood plain, consists of nearly level to undulating areas with bar-and-channel relief that is a result of streams overflowing their banks. Flooding still occurs on this surface, but it is less frequent since it is not associated with the diurnal tidal fluctuations and is more directly related to storm events. The soils have had time to develop a somewhat more strongly expressed umbric epipedon and cambic horizon (fig. 133). Isomesic Fluventic Humic Dystrudepts, such as the Nehalem series, are typical of the well drained soils that formed on the higher flood plains, and Fluvaquentic Humaquepts, such as the Brenner and Nestucca series, are typical of the poorly drained and somewhat poorly drained soils in the swales and depressions. The Fluventic and Fluvaquentic subgroups on this surface indicate that most of the alluvial material recently was deposited by water.

The coastal dunes are represented by isomesic Typic Udipsamments, such as Waldport soils. These soils formed in recently stabilized eolian sandy material that is associated with late Holocene dunes, and they exhibit minimal soil development. The Waldport soils have a high content of quartz and feldspar minerals, are light in color and weight, and have a thin surface layer that is dark colored as a result of an accumulation of organic matter. These soils are on beaches, modern foredunes along the beaches, and modern dunes on higher coastal terraces. In areas where these soils are under a canopy of trees and shrubs, a transitional AC horizon has formed. A thin-surface phase of the Waldport soils was mapped on the foredunes. The organic matter content and soil development are minimal on the foredunes as compared to the higher stabilized dunes (fig. 134).

Figure 133.—Flooding in an area of Brenner silt loam, 0 to 1 percent slopes, in Tillamook Valley.

Figure 134.—Foredunes and areas of Dune land in the Sand Lake Recreation Area. Waldport soils, thin surface, are in the areas with clumps of European beachgrass, and Waldport soils support shore pine, shrubs, and scattered Douglas-fir trees.

All of the foredunes in the survey area have formed in about the last 50 to 80 years (Reckendorf, 1975). These areas are associated with the introduction of European beachgrass (*Ammophila arenaria*), which is vigorous enough to grow up through the sand deposited in winter to form new foredunes above the beach. Foredunes are also associated with spits near the mouth of most of the rivers in the survey area. The relationship of these foredunes to adjacent geomorphic surfaces is generalized. The dune formation is superimposed over the coastal terrace formation; therefore, it is not readily observable.

The foredunes in the Sand Lake area, north of Pacific City, are primarily on the shoreline edge of the identified Tenmile geomorphic surface (fig. 135) (Nettleton and others, 1982). Once a wavecut platform with an overlay of sandy material or other beach and dune material occurs above sea level, such as the Tenmile surface, wind erosion can remove sandy sediment down to the level of the water table. Behind the foredune, wind erosion essentially scours the area down to the level of the water table in winter, creating a wet interdune area, or deflation plain. Isomesic Typic Psammaquents, such as Heceta soils, are on deflation plains, and Typic Endoaquods, such as Yaquina soils, are in the interdunal depressions. If these wet areas are contiguous to streams, they also tend to receive deposits of finer textured material during periods of overbank flow. If these areas are at the mouth of coastal rivers and streams, they can become contiguous with tidal areas. The coastal terraces frequently are modified by wind erosion, overbank deposition from streams, and tidal deposition, making the beginning of the terrace indiscernible. During dry periods in summer, the volume and level of water in the rivers drop because of the lack of precipitation. A sand bar gradually builds up at the mouth of most of the coastal streams to a height sufficient enough to potentially block off the stream channel from the ocean (fig. 136).

Miscellaneous areas, which have essentially no soil material and support little if any vegetation, also occur on the Horseshoe surface. An example is Riverwash, which is along the coastal alluvial river valleys. It consists of unstabilized sandy, silty, clayey,

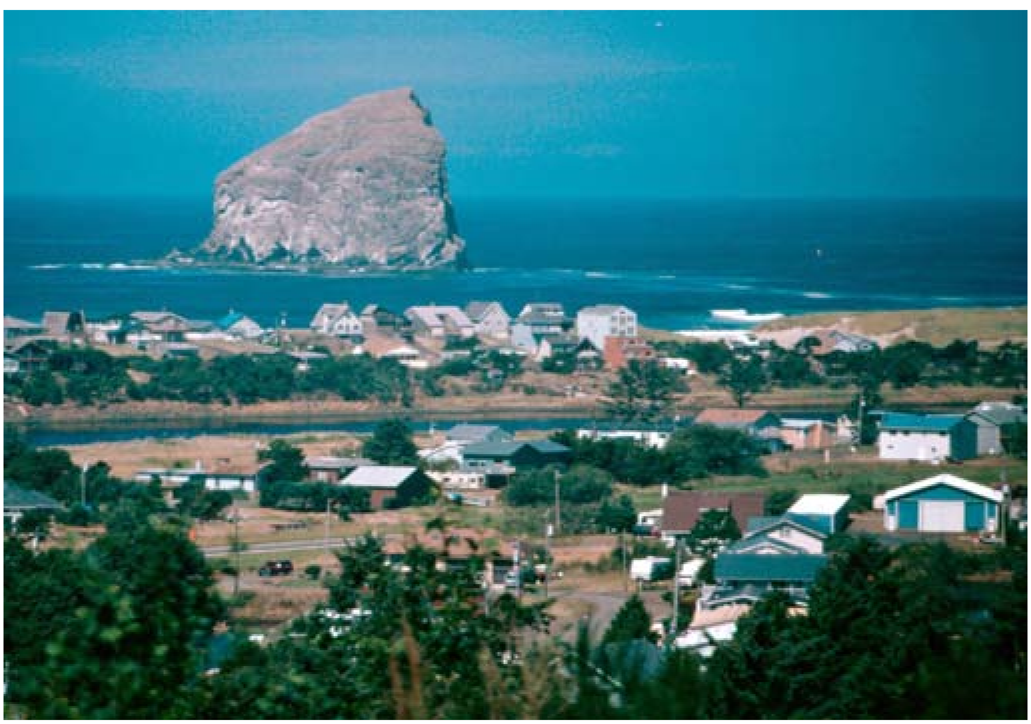

Figure 135.—Haystack Rock and Pacific City. Most of the homes are in areas of Waldport fine sand, thin surface, 0 to 5 percent slopes, and Waldport fine sand, thin surface, 3 to 12 percent slopes.

Figure 136.—Chamberlain Lake blocked off from the ocean by a sand dune.

or gravelly sediment that is flooded, washed, and reworked frequently by rivers or streams (fig. 137).

The younger stabilized dunes in the survey area are primarily on the higher Tenmile, Whiskey Run, and Pioneer coastal surfaces. These dunes are parabolic in shape (Reckendorf, 1975; Reckendorf and others, 2001). They develop in areas where there is a considerable amount of sand, a wind source that is dominantly unidirectional, and vegetation along the sides of the dunes that concentrates the wind to a point of weakness in the vegetation. One study indicated that in most areas along the Oregon Coast, the foredunes build to a height of about 30 feet (Reckendorf, 1975). At about that height, the sand tends to blow parallel to the face of the foredune, resulting in aggradation and widening on the beach side. This cuts off the supply of sand to the landward areas. The sand typically is high in content of quartz and feldspar minerals, which are lighter and more easily transported by strong winds. Since these dunes are cut off from the supply of sand from the beach, the wind removes sand from the back, or older, part of the dune and moves it forward to the younger tip of the dune. The dunes slowly move across the higher coastal terraces. The sandy soils of these dunes have only limited time for soil development to occur until they are disturbed once again. Younger dunes, in contrast to unaltered recent dunes, are slightly weathered. They are high in base status and humus levels and low in content of clay. Continual weathering and leaching under the cool, humid oceanic climate depletes the base status of the soils and increases acidity (Jenny and others, 1969).

Late to Early Holocene Marine and Low Stream Terraces (Tenmile and Winkle Surfaces)

The main physiographic feature of the Tenmile surface is the bar-and-channel topography associated with an abandoned flood plain or area of lowland. Along the coastal margin of the survey area, the early Holocene sediment associated with the Tenmile surface consists of deep, sandy material that has been stable long enough for the formation of a weak spodic horizon. Isomesic Entic Haplorthods, such as Netarts soils, formed in this material.

Figure 137.—Riverwash along the Kilchis River.

Two terrace levels were recognized and associated with the Winkle surface along the coastal alluvial valleys at the western margin of the survey area. These terraces are well expressed along the Wilson and Trask Rivers. Soils associated with andic properties, such as a high available water capacity, high content of organic carbon, high cation-exchange capacity (when buffered to pH of 7 or more), low bulk density, high content of chemically extractable iron and aluminum, and high phosphate retention, are on both terrace levels along the coastal stream systems (Hoppe, 1989). The Wolfer and Euchre soils exhibit these characteristics. The Wolfer soils have a thick, dark-colored umbric epipedon, a moderately expressed cambic horizon, and a substratum of strongly contrasting textural stratification with extremely gravelly alluvial material at a depth of 24 to 36 inches below the surface.

In the convex landscape positions (bars), the alluvium has been in place long enough for initial weathering to take place and formation of a weakly expressed cambic B horizon. Alluvium of the lower terrace consists of very deep, stratified, medium textured to moderately coarse textured material. Isomesic Humic Dystrudepts, such as Logsden soils, formed in this material and have an umbric epipedon and a cambic horizon.

The higher terrace consists of medium textured to coarse textured alluvium derived from volcanic sources higher in the watershed. This variability of the depositional material suggests the possibility of a higher energy alluvial environment at the time of initial deposition or a difference in mineralogy or intensity of weathering. Isomesic Pachic Melanudands, such as Quillamook soils, gravelly substratum, formed in this material. These Quillamook soils have a thick, dark-colored umbric epipedon, a well expressed cambic horizon, and a substratum of strongly contrasting textural

stratification with extremely gravelly alluvial material at a depth of 40 to 60 inches below the surface. Isomesic Alic Endoaquands, such as Euchre soils, formed in the coastal zone on this surface, where there is an elevated water table in the depressions.

Along several of the major rivers that bisect inland areas of the survey area, the Winkle surface is dominantly one terrace level that consists of deep, medium textured alluvium derived from the surrounding mountains. Inland within the coastal fogbelt, isomesic Typic Fulvudands, such as Siletz soils, have formed in the mixed igneous and sedimentary alluvium in a slightly warmer climate zone. Farther inland within the mesic soil temperature regime, Alic Hapludands have formed in convex positions on the stream terraces under slightly warmer and drier conditions in summer. Soils such as Humaquepts and Dystrudepts have formed in swales that have an elevated water table. Because of the limited extent of these soils, they were mapped at the higher taxonomic level.

Other areas of this surface occur as remnant lowlands intermingled with flood plains. These areas are inland, immediately adjacent to foredunes and the associated deflation plain along the western edge of the survey area. Isomesic Typic Endoaquods, such as Yaquina soils, are in slightly convex interdunal positions adjacent to the deflation plain. These soils have been stable long enough to form a thin albic horizon at the soil surface and a spodic horizon in the subsoil, which has weakly cemented iron nodules and very thin lenses of minimal cementation throughout. In the concave areas (channels), the alluvium is recent enough that soil development is minimal and a cambic horizon has not formed. The A horizon exhibits some soil development consisting of minimal incorporation of organic matter. A relative age of the Tenmile surface has been suggested as about 5,300 to 10,800 years before present (Bockheim and others, 1993). Previous studies indicate that a spodic horizon along the Oregon Coast probably forms in 10,000 years or less (Nettleton and others, 1982).

Latest Pleistocene Lower Marine Terraces and Intermediate Stream Terraces (Whiskey Run and Senecal Surfaces)

The coastal Whiskey Run surface is of limited extent in the survey area, and for practical purposes, it has been correlated into the next higher geomorphic level, the Pioneer surface. Along the coastal margin of the survey area, the Whiskey Run surface consists of very deep, sandy material that has been stabilized by vegetation. The Netarts soils formed in this material. They have a weak spodic horizon.

The Whiskey Run surface was recognized in the soil mapping as delineations of Chitwood soils (isomesic Aquandic Dystrudepts), Hebo soils (isomesic Typic Humaquepts), Knappa soils (isomesic Andic Dystrudepts), and Walluski soils (isomesic Andic Oxyaquic Dystrudepts). These soils are on coastal fluviomarine terrace remnants and along coastal river valley stream terraces, such as the Senecal surface, consisting of very deep, moderately fine textured to fine textured alluvium. In the Tillamook Valley along the Wilson and Trask Rivers, isomesic Typic Melanaquands, such as Ginger soils; Aquic Melanudands, such as Tillamook soils; and isomesic Pachic Melanudands, such as Quillamook soils, typify soil development on this surface (fig. 138). An umbric epipedon, an elevated level of organic carbon in the surface layer, a moderately expressed to strongly expressed cambic horizon, and andic soil properties are typical of the soils that formed along the cooler coastal valleys of the survey area.

An umbric epipedon, a cambic horizon, and an elevated water table are typical of soils that formed on the Senecal surface, along the slightly warmer and drier inland valleys. Because of their limited extent, these areas were mapped as more broadly defined soil map unit components. Mesic Alic Hapludands and Dystrudepts formed in the nearly level to convex areas, and mesic Aquepts and Humaquepts formed in the depressions and swales that have an elevated water table. Researchers have

Figure 138.—Along the lower part of the Kilchis River, Nehalem silt loam, 0 to 3 percent slopes, is on the flood plains (in foreground) and Quillamook medial silt loam, 0 to 7 percent slopes, is on the terraces (areas with homes and outbuildings).

assigned a relative age of 83,000 years before present (plus or minus 5,000 years) to the Whiskey Run surface at Coquille Point, in Coos County (Muhs and others, 1990). Others suggest a similar age of 80,000 years before present (plus or minus several thousand years) for the Cape Blanco terrace equivalent along the southern Oregon coast (Bockheim and others, 1993).

Late Pleistocene Middle Marine Terraces and Remnant High Stream Terraces (Pioneer and Dolph Surfaces)

As mapped by Griggs (Griggs, 1945) and Beaulieu (Beaulieu, 1973), the coastal Pioneer geomorphic surface in the survey area appears to have three terrace levels and a variety of landforms and elevational ranges as a result of tectonic activity. Recent studies have provided better understanding of the genesis and morphology of the soils on this surface and the higher marine terraces along the Oregon coast, which assists in determining the relative age of these surfaces (Adams, 1984; Bockheim and others, 1993; Hoppe, 1989; Janda, 1970; Kelsey, 1990; Marshall, 1991; McInelly and Kelsey, 1990; Muhs and others, 1990; Wehmiller and others, 1977).

In general terms, these studies have determined that the development of a soil profile, the content of clay, and the level of chemically extractable iron and aluminum increase as the age of the higher surfaces increases, thus indicating progressively older landform development from the Tenmile terrace to the Pioneer terrace (Hoppe, 1989). Several recent studies determined that the thickness of the solum increased as the age of the geomorphic surface along the Pacific Coast increased (Aniku and Singer, 1990; Hoppe, 1989; Marshall, 1991; Muhs, 1982). Other research has shown a close relationship between the content of clay and depth to the maximum accumulation of clay and the age of the geomorphic surface (Busacca, 1987; Harden and Taylor, 1982; Hoppe, 1989). Depth to unoxidized, unaltered beach sand increased

markedly from the younger to the older terrace surfaces. The increase in depth to the C horizon reflects the increased time of exposure to weathering and soil formation (Marshall, 1991). The depth to unoxidized parent material increased as the age of the geomorphic surface increased. Variations in particle size and possibly mineralogy on individual terraces may be a result of sorting by wave action during deposition. In addition, the particle size distribution of the C horizon is coarser on the lowest terraces and becomes progressively finer on the higher terraces, presumably a result of weathering in place (Janda, 1970).

A basic knowledge of the plate tectonic theory is helpful in understanding the elevational and landform relationships that occur on the Pioneer surface and higher coastal terraces. According to the theory, the crust and upper mantle of the earth are subdivided into a series of semi-independent plates, each of which is moving laterally in response to deep-seated activity in the earth. Boundaries between the plates are sites of sea-floor rises in areas of divergence, trenches or continental collisions in areas of convergence, and transform faults or transcurrent faults (large-scale strike-slip) in areas of parallel movement. In the northeastern Pacific Basin, a relatively complex border zone has developed between the Pacific Plate (floor of the Pacific Ocean) and the North American Plate (North American continent, Greenland, and the Arctic). As the Pacific Plate moves north relative to the North American Plate, there is movement along the various faults and rises that separate the two plates. Pressure between the two plates occurs when this movement is opposed by the North American Plate, and it continues to build up along the fault zones until it is relieved by an earthquake. Associated with the release of energy are displacements, called faults, along planar surfaces. When an earthquake occurs, energy is released along these fault lines through the crustal structure of the earth (Beaulieu, 1973). Typically, one side of the fault zone uplifts and the other side subsides, creating a step effect. In addition, subduction of the Juan de Fuca Plate beneath the North American Plate has forced the west coast upward. Cape Blanco, in Curry County, which is about 35 miles from the subduction zone trench, has the fastest rate of uplift (about 1 inch every 3 years) on the Oregon Coast (Orr and Baldwin, 2000). This tectonic movement and the ongoing processes of erosion and sedimentation on the coastal terraces make it difficult to determine the sequence in landscape development that would otherwise be apparent over time if eustatic separation (changes in sea level) of the coastal terraces was the only process involved. Consequently, there are discrepancies in the relative age of these terraces in published literature. Through the techniques of aminostratigraphy and amino acid dating, a relative age of 105,000 years before present has been correlated to the Pioneer terrace at Cape Blanco (Kelsey, 1990; Muhs and others, 1990).

On the Cape Blanco and Pioneer terraces, the loamy mantle of very dark brown to yellowish brown soil material that overlies the spodic horizon, ortstein layer, or other original terrace and dune material obscures the boundaries between Inceptisols, Spodosols, and Andisols. At a scale of 1:24,000, this makes soil mapping within the same terrace level very difficult. As a result, complexes of soils that have vastly differing soil genesis and morphology were mapped in this survey area. At a larger scale, these soil-landscape relationships would be more apparent and easier to delineate on a map.

The lowest level of the Pioneer surface has been recognized as the Cape Blanco terrace (Bockheim and others, 1993; Kelsey, 1990; Marshall, 1991; Wehmiller and others, 1977). In this survey area, it is south of Cape Lookout and Rover Creek. On this surface, early Holocene to recent sediment consisting of deep, sandy material has been stable long enough to form a weak spodic horizon. This is represented by isomesic Entic Haplorthods, such as Netarts soils. These soils did not develop in the underlying older terrace material as evidenced by the fact that the soils and parent material are not co-extensive with the underlying terrace deposits. In addition,

artifacts from earlier Native American cultures that would likely date as Holocene or younger have been found in the soils on the Cape Blanco terrace, along the southern Oregon coast. Isomesic Humic Dystrudepts, such as Ferrelo soils, have developed adjacent to the Holocene sediment. Accumulation of organic matter in the surface layer, development of an umbric epipedon, and formation of a weak cambic or spodic horizon are the only morphological evidences of soil development on this terrace. The Ferrelo soils formed in moderately coarse textured sediment underlain by unconsolidated sandy material, are loamy in texture, have a thick, dark-colored surface layer, and exhibit a more highly developed cambic horizon than do the adjacent Netarts soils. A relative age suggested for the Cape Blanco terrace in the survey area is 80,000 to 90,000 years before present (Bockheim and others, 1993).

The middle terrace of the three levels is the classic Pioneer surface, first recognized by Griggs (Griggs, 1945) and used for correlation by others (Beaulieu, 1973; Bockheim and others, 1993; Hoppe, 1989; Janda, 1970; Kelsey, 1990; Marshall, 1991). In the survey area, this surface has three landform expressions as a result of tectonic activity—dissected coastal fluviomarine terrace remnants at the mouth of major river estuaries adjacent to the Pacific Ocean, dissected coastal marine terrace remnants, and high stream terrace remnants along the major coastal river valleys. Sediment associated with the higher levels of the Pioneer surface consists of coarse textured to moderately fine textured material. The location and source vary depending on whether this surface is affiliated with soil development in the marine environment (Pioneer) or the high stream terrace environment (Dolph).

In the marine environment on the dissected coastal fluviomarine terrace remnants at the mouth of major river estuaries, the associated sediment is very deep and moderately fine textured or fine textured. Because of the west coast plate tectonics, wavecut platforms of soft claystone and siltstone have developed and are constantly being uplifted as coastal strath terraces (Palmer, 1967). Weathering and leaching of salts occurs rapidly under the high-precipitation coastal climate. Where strath terraces of siltstone or sandstone formed, the content of clay in the soils is lower. Because of erosion and deposition, soils on wavecut platforms may be younger than the platform itself (Jenny and others, 1969). Some Inceptisols on these terraces formed from the weathering in place of the underlying parent material of wavecut platforms, and they exhibit only minor relief across the landscape. The soils have an umbric epipedon and moderately developed to strongly developed cambic horizon. Isomesic Aquandic Dystrudepts, such as Chitwood soils, and isomesic Andic Dystrudepts, such as Knappa soils, typify the more convex areas of this surface. Walluski soils (isomesic Andic Oxyaquic Dystrudepts) and Hebo soils (isomesic Typic Humaquepts) formed in depressions, where the water table is elevated. On the dissected marine terrace remnants, the soils formed in coarse textured to medium textured eolian material over stratified marine sediment of the late Pleistocene. Isomesic Typic Duraquods, such as Depoe soils, formed in depressions where loamy textured, wind- or water-deposited material overlies stratified marine sediment. An iron-cemented, or ortstein, layer has developed in these soils at a depth of about 12 to 20 inches. The water table is perched above this impermeable layer and is at or near the surface for a long time during the year. The Depoe soils have an albic (white or leached) diagnostic horizon at the mineral surface. This horizon is the result of the removal of clay and free iron oxides to such an extent that the color is determined by that of the primary sand and silt particles present rather than that of the coatings on these particles.

Other soils that formed on the highest level associated with the late Pleistocene coastal Pioneer surface include the Horseprairie soils (isomesic Andic Dystrudepts), which formed in moderately fine textured material along the back margin of this surface. These soils have andic properties such as high available water capacity, low bulk density, high cation-exchange capacity, high level of phosphate retention, high content of chemically extractable iron and aluminum, and high content of organic

carbon, particularly in the surface layer. These soils are in gently sloping convex areas. Along the southern Oregon coast, this surface has been recognized as the Silver Butte terrace (Bockheim and others, 1993; Janda, 1970; Kelsey, 1990; Marshall, 1991). A relative age of about 125,000 years before present is suggested by several researchers (Bockheim and others, 1993; Kelsey, 1990; Muhs and others, 1990).

In inland areas, the Dolph surface consists of dissected remnants of high terraces along several of the major stream systems. The aerial extent of the inland Dolph surface is very limited in the survey area; therefore, these areas were mapped as more broadly defined soil map unit components and were correlated with the lower Senecal surface. Mesic Alic Hapludands and Dystrudepts formed in the nearly level to convex areas, and mesic Aquepts and Humaquepts formed in the depressions and swales that have an elevated water table.

Looney Unit and Soil Development

The Looney unit has no particular age connotation; therefore, it is not considered to be a geomorphic surface. The terrain of the Looney unit is completely dissected and is dominantly steep. Slope is more than 100 percent in some areas. Steep, broken topography mapped as the Looney unit may join any other two surfaces or may make up large areas of mountainous terrain so thoroughly dissected that geomorphic surfaces are unrecognizable. Erosion is active on much of the unit, and there are some areas of mass soil movement (Parsons and Herriman, 1975). A few remnants of some of the oldest geomorphic surfaces are in the unit (Balster and Parsons, 1968).

The variability in age makes the Looney unit useful for geomorphic mapping of mountainous terrain. This unit could be subdivided into several smaller geomorphic units if it were mapped at a larger scale. Three significant gradient breaks are apparent, and they correspond to stable, metastable, and active slopes (Parsons, 1978). Narrow alluvial valleys are also included in this unit. Soils in the Looney unit formed in colluvium and residuum derived dominantly from igneous and sedimentary rock.

In the following paragraphs, discussion of the Looney unit is based on the isomesic, isofrigid, mesic, frigid, and cryic soil temperature regimes recognized in the survey area.

Isomesic and Isofrigid Zones

At elevations of 1,800 feet or less, the Looney unit can be separated into two soil temperature zones, the coastal mountains and hills (isomesic zone) and the interior coastal mountains (mesic zone). In the coastal mountains and hills, the unit is typified by Alic Fulvudands and Andic Dystrudepts. These soils formed in colluvium and/or residuum on metastable to active slopes. Andic soil properties are evident in the surface layer and subsoil. The Ascar, Fendall, Klootchie, Necanicum, Neskowin, Reedsport, Salander, Skipanon, Templeton, and Tolovana soils are examples. The soils have developed an umbric epipedon and a cambic horizon. The Klootchie and Salander soils (isomesic Typic Fulvudands) formed in colluvium and residuum derived from igneous rock. On the more stable landscapes, the rock is dominantly siltstone and mudstone and the soil development processes have been ongoing for a longer period of time. The Fendall and Templeton soils (isomesic Andic Dystrudepts) formed in colluvium and residuum derived dominantly from siltstone. The bedrock contact in the areas of siltstone tends to be paralithic (weathered) (fig. 139). The weathering of the bedrock is more variable in the areas of sandstone; thus, the bedrock contact ranges from lithic (unweathered) to paralithic to highly weathered, where it is difficult to discern between the bedrock contact and the material of the C horizon. Areas of sandstone strata generally are on the metastable or active slopes that have minimal soil development. Even where the more sandy strata are on stable slopes, development is limited to loamy textures, dark brown or brown colors, and formation

Figure 139.—Highly fractured, paralithic siltstone in a Fendall soil.

of a cambic horizon. An example is the Reedsport soils (isomesic Andic Dystrudepts). The process of differential weathering, which consists of more rapid and thorough weathering of one rock stratum as compared to another adjacent stratum on the same metastable to active landscape, is representative of the Tolovana soils (isomesic Typic Fulvudands). These soils formed in colluvium derived dominantly from tuffaceous rock over residuum derived from siltstone. They have a thick umbric epipedon and contrasting parent material within the soil profile. The Skipanon soils (isomesic Andic Dystrudepts) formed in old mass movement deposits in areas of ancient landslides.

On metastable to active slopes, the colluvial material tends to be high in content of rock fragments (skeletal soils). Ascar and Necanicum soils (isomesic Typic Fulvudands) formed on these slopes. Neskowin soils (isomesic Typic Fulvudands) formed in colluvium derived dominantly from basalt along coastal headlands, such as Cascade Head, and Klootchie and Salander soils (isomesic Typic Fulvudands) formed in colluvium and residuum derived dominantly from basalt in the coastal mountains.

The isofrigid soil temperature regime is at an elevation of 1,600 to 3,000 feet. In this part of the survey area, the Looney unit is typified by Pachic Fulvudands that have a thick, dark-colored umbric epipedon and a cambic horizon. Andic soil properties are evident throughout the soil profile. These soils are loamy and are black to dark brown. Medial-skeletal soils, such as the Fawceter and Killam series, formed in colluvium derived dominantly from basalt on metastable to active slopes, and medial soils, such as the Mosscreek series, formed on the stable to metastable slopes.

Mesic Zone

To the east, in the interior Coast Range, the mesic soil temperature zone of the Looney unit ranges in elevation from 200 to 2,200 feet. Typical soils are mesic Alic Hapludands, such as the Hemcross and Ginsberg series, that formed in colluvium and residuum derived from basalt or tuffaceous rock. These soils have an umbric epipedon and a cambic horizon. They are on the stable to metastable slopes. Skeletal soils,

such as the Harslow and Klistan series (Alic Hapludands), formed in colluvium derived dominantly from basalt on metastable to active slopes. Along the southeastern edge of the survey area, Andic Dystrudepts, such as Astoria, Preacher, and Bohannon soils, formed in colluvium and residuum derived dominantly from siltstone and sandstone. They are on stable or metastable slopes. These soils are loamy or clayey; have an increase in the content of rock fragments, although not enough to be classified as skeletal; are brown in color; and have andic soil properties in the surface layer.

Frigid Zone

In the interior high Coast Range, the frigid soil temperature regime of the Looney unit ranges in elevation from 1,800 to 3,000 feet. Alic Hapludands, such as Caterl, Laderly, and Murtip soils, formed in colluvium and residuum derived from basalt. Andic soil properties are evident throughout the soil profile. These soils are loamy and dark brown to brown. Andic Dystrudepts, such as McMille and Mutt soils, formed in colluvium and residuum derived from siltstone or shale. These soils are silty; have an increase in the content of rock fragments, although not enough to be classified as skeletal; are brown in color; and have andic soil properties in the surface layer. The Murtip, McMille, and Mutt soils formed on stable to metastable slopes, and the skeletal Caterl and Laderly soils formed on metastable to active slopes. Soil formation in the frigid zone is limited to development of an umbric epipedon and a moderately expressed cambic horizon.

Cryic Zone

The Looney unit within the cryic soil temperature regime in the interior high Coast Range is typified by Typic Fulvicryands, such as Newanna, Sevencedars, and Woodspoint soils. Elevation ranges from 2,800 to 3,700 feet. These soils formed in colluvium and residuum derived dominantly from igneous rock. Andic soil properties are evident throughout the soil profile. All of these soils are loamy and are dark brown to brown. The Woodspoint soils have an increase in the content of rock fragments, although not enough to be classified as skeletal, and formed on stable to metastable slopes. The skeletal Newanna and Sevencedars soils formed on metastable to active slopes. These soils have a thick umbric epipedon and a weakly expressed to moderately expressed cambic horizon.

Evidence of minor glaciation in the Tillamook Highlands was observed during field mapping and recognized as the till substratum phase of the Caterl (frigid) and Sevencedars (cryic) soils. The areas are not extensive (about 1,300 acres), but the interpretive differences for management are significant enough that separate, unique map units were developed.

Glaciers probably formed during several episodes of the late Pleistocene (Lee, 1972; Sharp, 1960). The height of glaciation occurred during the Wisconsin stage, or about 75,000 years ago, when the climatic and atmospheric conditions were favorable for the formation of extensive ice packs. Earlier glaciation (100,000 years before present) probably occurred, but evidence has most likely been altered by later erosional episodes. The physiographic features created by glaciers are determined by the thickness and weight of the ice, the gradient of the slope, and the characteristics of the bedrock, such as the jointing patterns in hard rock (closely spaced or widely spaced, horizontal or vertical) and the resistance and massiveness of the rock (Woods, 1988). Probable glacial features in this survey area include tarns, or glacial lake basins; cirque lakes; steep headwalls; and moraines. Small, shallow glacial lakes and tarns become meadows as a result of a gradual process of encroachment of alluvial debris into the shallow basin. During the initial stages of sedimentation, the perimeter of the tarn becomes swampy and vegetation becomes established. As the process continues, the basin becomes filled with alluvium and a grassy meadow becomes established on the valley floor. These cirque lakes collect the snowmelt and

runoff from the surrounding higher elevations and form the headwaters of present-day streams. Steep headwalls exhibit evidence of erosion by glaciation. Areas of talus slopes are below the headwalls of the areas of Rock outcrop. Moraines are mounds of angular rock and soil debris that are eroded and transported in ice as a glacier moves downslope. As the glacier retreats, debris from melting ice is left along the leading edge, creating a terminal moraine, and along the sides, creating a lateral moraine.

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Glossary

Many of the terms relating to landforms, geology, and geomorphology are defined in more detail in the “National Soil Survey Handbook” (available in local offices of the Natural Resources Conservation Service or on the Internet).

ABC soil. A soil having an A, a B, and a C horizon.

Abomasum. The fourth and final stomach compartment in ruminant animals. It secretes rennin, which is used in cheese production. The artificial form is called rennet. The abomasum is also known as the maw, rennet-bag, and read.

Abrupt textural change. A soil horizon boundary or thin transitional zone characterized by a considerable increase in clay that occurs at the contact between a surface layer, subsurface layer, subsoil, or substratum.

AC soil. A soil having only an A and a C horizon. Commonly, such soil formed in recent alluvium or on steep, rocky slopes.

Accretion (sedimentology). The gradual increase or extension of land by natural processes acting over a long period of time, such as the accumulation of sediment deposited on a flood plain by a stream.

Actinomycetes. A group of organisms intermediate between bacteria and true fungi.

Aeration, soil. The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aggradation. The building up of the earth’s surface by deposition. Specifically, the accumulation of material by any process to establish or maintain uniformity of a grade or slope.

Aggregate, soil. Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Albic horizon. An eluvial horizon that is at least 1 centimeter thick or more. The color of the soil material is largely determined by the color of primary sand and silt particles rather than by the color of their coatings.

Alluvial cone. A semiconical type of alluvial fan having very steep slopes. It is higher, narrower, and steeper than a fan and is composed of coarser and thicker layers of material deposited by a combination of alluvial episodes and (to a much lesser degree) landslides (debris flow). The coarsest materials tend to be concentrated at the apex of the cone.

Alluvial fan. A low, outspread mass of loose materials and/or rock material, commonly with gentle slopes. It is shaped like an open fan or a segment of a cone. The material was deposited by a stream at the place where it issues from a narrow mountain valley or upland valley or where a tributary stream is near or at its junction with the main stream. The fan is steepest near its apex, which points upstream, and slopes gently and convexly outward (downstream) with a gradual decrease in gradient.

Alluvium. Unconsolidated material, such as gravel, sand, silt, clay, and various mixtures of these, deposited on land by running water.

Alpha,alpha-dipyridyl. A compound that when dissolved in ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction implies reducing conditions and the likely presence of redoximorphic features.

Alpine. Characteristic of or resembling the European Alps, or any lofty mountain or mountain system, especially one so modified by intense glacial erosion as to contain cirques, horns, etc. Sometimes used to designate areas above or near timberline.

Anadromous. Fish species that migrate from the sea to spawn in freshwater. Offspring return to the ocean, where they spend most of their adult lives.

Andic soil properties. A collection of physical and chemical properties that define the criteria for the Andisol order.

Animal unit month (AUM). The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

Anticline. A unit of folded strata that is a convex upland. In a single anticline, beds forming the opposite limbs of the fold dip away from its axial plane.

Aquatic ecosystems. Any body of water, such as a stream, lake, or estuary, and all organisms and non-living components in it that function as a natural system.

Aquic conditions. Current soil wetness characterized by saturation, reduction, and redoximorphic features.

Argillic horizon. A subsoil horizon characterized by an accumulation of illuvial clay.

Arkose. Sandstone containing unaltered feldspar; usually formed from weathered granite in mountainous regions.

Ash (volcanic). Unconsolidated, pyroclastic material less than 2 millimeters in all dimensions; commonly called volcanic ash.

Aspect. The direction toward which a slope faces. Also called slope aspect.

Aspect, north. All compass directions with a northerly aspect, including west-northwest, northwest, north-northwest, north, north-northeast, northeast, and east-northeast. North aspects have less solar radiation than south aspects and consequently are cooler and more moist.

Aspect, south. All compass directions with a southerly aspect, including east-southeast, southeast, south-southeast, south, south-southwest, southwest, and west-southwest. South aspects have more solar radiation than north aspects and consequently are warmer and more droughty.

Association, soil. A group of soils or miscellaneous areas geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit.

Atomic number (Z). Term used in chemistry and physics to represent the number of protons in the nucleus of an atom.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low	0 to 3
Low	3 to 6
Moderate	6 to 9
High	9 to 12
Very high	more than 12

Avalanche chute. The central channel-like corridor, scar, or depression along which an avalanche has moved. It may take the form of an open path in a forest, with bent and broken trees, or an eroded surface marked by pits, scratches, and grooves.

Backslope. The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, backslopes are commonly bounded by a convex shoulder above and a concave footslope below.

Backswamp. A flood-plain landform. Extensive, marshy or swampy, depressed areas of flood plains between natural levees and valley sides or terraces.

Basal area. The area of a cross section of a tree, generally referring to the section at breast height and measured outside the bark. It is a measure of stand density, commonly expressed in square feet.

Basalt. A fine-grained, dark-colored extrusive igneous rock composed primarily of calcic plagioclase and pyroxene, with or without olivine.

Base saturation. The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

Base slope (geomorphology). A geomorphic component of hills consisting of the concave to linear (perpendicular to the contour) slope that, regardless of the lateral shape, forms an apron or wedge at the bottom of a hillside dominated by colluvium and slope-wash sediments (for example, slope alluvium).

Basin. A low area in the earth's crust, of tectonic origin, in which sediment has accumulated. It has few, if any, surface drainage outlets.

Bedding plane. A planar or nearly planar bedding surface that visibly separates each successive layer of stratified sediment or rock (of the same or different lithology) from the preceding or following layer; a plane of deposition. It commonly marks a change in the circumstances of deposition and may show a parting, a color difference, a change in particle size, or various combinations of these. The term is commonly applied to any bedding surface, even one that is conspicuously bent or deformed by folding.

Bedrock. The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Bedrock-controlled topography. A landscape where the configuration and relief of the landforms are determined or strongly influenced by the underlying bedrock.

Biogenic. That which is a result of the activity of living organisms or is necessary for life processes.

Biological diversity. The variety of living organisms and their assemblages. The genetic variation within and between populations of species, and the many processes that link organisms and their physical environment to ecological systems.

Bisequum. Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.

Blowout. A saucer-, cup-, or trough-shaped depression formed by wind erosion on a preexisting dune or other sand deposit, especially in an area of shifting sand or loose soil or where protective vegetation is disturbed or destroyed; the adjoining accumulation of sand derived from the depression, where recognizable, is commonly included. Blowouts are commonly small.

Bottom land. An informal term loosely applied to various portions of a flood plain.

Boulders. Rock fragments larger than 2 feet (60 centimeters) in diameter.

Breast height. An average height of 4.5 feet above the ground surface; the point on a tree where diameter measurements are ordinarily taken.

Breccia. Coarse grained, clastic rock made up of angular broken rock fragments that are held together by mineral cement or are in a fine-grained matrix.

Brush management. Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.

Bulk density. The mass of soil per unit bulk volume. Moist bulk density refers to the oven-dry weight of a given volume of soil with moisture content at or near field moisture capacity.

Butte. An isolated, generally flat-topped hill or mountain with relatively steep slopes and talus or precipitous cliffs and characterized by summit width that is less than the height of bounding escarpments; commonly topped by a caprock of resistant material and representing an erosion remnant carved from flat-lying rocks.

Cable yarding. A method of moving felled trees to a nearby central area for transport to a processing facility. Most cable yarding systems involve use of a drum, a pole, and wire cables in an arrangement similar to that of a rod and reel used for fishing. To reduce friction and soil disturbance, felled trees generally are reeled in while one end is lifted or the entire log is suspended.

Cambic horizon. A mineral soil horizon that is loamy very fine sand or finer textured and has soil structure rather than rock structure. The cambic horizon contains some weatherable minerals, and it is characterized by alterations or removals as indicated by redoximorphic features or by stronger chroma or redder hue than that of the underlying horizons.

Cambium. The layer of tissue between the bark and wood in woody plants from which new wood and bark develops.

Canker diseases. Dead sections of bark on branches or main trunks of trees. Bark may be killed by mechanical injuries or by plant pathogens, especially fungi and bacteria. Most plant pathogens cannot penetrate bark directly but will quickly colonize wounded tissue. Canker diseases may cause extensive damage to trees if all of the bark in a particular area is affected, thus girdling a branch or main stem. Girdling kills all of the plant above the canker. Cankers caused by mechanical injuries may not kill trees outright, but they can be susceptible to invasion by wood-rotting organisms.

Canopy. The leafy crown of trees or shrubs. (See Crown.)

Canyon. A long, deep, narrow valley with high, precipitous walls in an area of high local relief.

Capillary water. Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

Catena. A sequence, or “chain,” of soils on a landscape that formed in similar kinds of parent material and under similar climatic conditions but that have different characteristics as a result of differences in relief and drainage.

Cation. An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

Cation-exchange capacity. The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

Chemical treatment. Control of unwanted vegetation through the use of chemicals.

Chiseling. Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.

Cirque. A steep-walled, semicircular or crescent-shaped, half-bowl-like recess or hollow, commonly situated at the head of a glaciated mountain valley or high on the side of a mountain. It was produced by the erosive activity of a mountain glacier. It commonly contains a small round lake (tarn).

Clastic. Pertaining to rock or sediment composed mainly of fragments derived from pre-existing rock or minerals and moved from their place of origin. Examples are conglomerate, sandstone, and siltstone.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay depletions. See Redoximorphic features.

Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Claypan. A dense, compact subsoil layer that contains much more clay than the overlying materials, from which it is separated by a sharply defined boundary. The layer restricts the downward movement of water through the soil. A claypan is commonly hard when dry and plastic and sticky when wet.

Climax forest stage. The culminating forest succession stage. Overstory vegetation is dominated by trees that are climax for the site. Vertical depth of the understory and overstory canopies is at a maximum. Seedlings to maximum-size, mature trees are present in varying amounts, resulting in an uneven-aged stand.

Climax plant community. The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.

Climax tree. The most competitive tree capable of growing on a particular site.

Coarse textured soil. Sand or loamy sand.

Coarse-loamy. A loamy particle-size class that is 15 percent or more fine sand or coarser, including fragments as much as 3 inches in diameter, and is less than 18 percent clay in the fine-earth fraction.

Coarse-silty. A loamy particle-size class that is less than 15 percent fine sand or coarser, including fragments as much as 3 inches in diameter, and is less than 18 percent clay in the fine-earth fraction.

Cobble (or cobblestone). A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.

Cobbly soil material. Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.

Cohesive forces. Forces that hold together a solid or liquid as a result of the attraction among like molecules.

COLE (coefficient of linear extensibility). See Linear extensibility.

Colluvium. Unconsolidated, unsorted earth material being transported or deposited on side slopes and/or at the base of slopes by mass movement (for example, direct gravitational action) and by local, unconcentrated runoff.

Compaction. The increase in soil bulk density as a result of applied loads or pressure. Compaction reduces porosity, water infiltration, and root penetration.

Complex slope. Irregular or variable slope.

Complex, soil. A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Concretions. See Redoximorphic features.

Conglomerate. A coarse grained, clastic sedimentary rock composed of rounded or subangular rock fragments more than 2 millimeters in diameter. It commonly has a matrix of sand and finer textured material. Conglomerate is the consolidated equivalent of gravel.

Coniferous. Pertaining to plants of the *Coniferales* order of the *Gymnospermae* subdivision. Coniferous plants have cone fruit and are commonly, but not always, evergreen. Examples include ponderosa pine, Douglas-fir, and western larch.

Conservation cropping system. Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

Conservation tillage. A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil. Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the "Soil Survey Manual."

Consociation. A kind of soil map unit that is dominantly a single soil or miscellaneous area and similar soils.

Consumptive use. The water used by plants for transpiration and growth plus the water vapor loss from adjacent soil or snow or from intercepted precipitation during any specified time. It commonly is expressed as the equivalent depth of free water per unit of time. Consumptive use is primarily applied to a single type of vegetation in a given area and does not include evaporation of water in or adjacent to the area.

Continental glaciation. Refers to the glaciers that covered much of North America during the Ice Age, as opposed to contemporary glaciers associated with mountains.

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Cordilleran ice sheet. The glacial ice sheet that covered much of the northern half of North America, from the eastern face of the Rocky Mountains to the Pacific Ocean, during the Pleistocene.

Corrosion (geomorphology). A process of erosion whereby rocks and soil are removed or worn away by natural chemical processes, especially by the solvent action of running water, but also by other reactions, such as hydrolysis, hydration, carbonation, and oxidation.

Corrosion (soil survey interpretations). Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Creep. Gradual downslope movement of soil material. It is caused by gravity but is facilitated by saturation of the material with water and by alternate freezing and thawing.

Crop residue management. Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

Cropping system. Growing crops according to a planned system of rotation and management practices.

Crown. The upper part of a tree or shrub, including the living branches and their foliage.

Cryic. A soil temperature regime in which the mean annual soil temperature at a depth of 20 inches ranges from 33 to 46 degrees F. The mean summer soil temperature is less than 47 degrees for soils that have an O horizon, and it is less than 59 degrees for soils that do not have an O horizon.

Cryoturbate. A mass of soil or other unconsolidated earthy material moved or disturbed by frost action. It is typically coarser than the underlying material.

Culmination of the mean annual increment (CMAI). The average annual increase per acre in the volume of a stand. Computed by dividing the total volume of the stand by its age. As the stand increases in age, the mean annual increment continues to increase until mortality begins to reduce the rate of increase. The

point where the stand reaches its maximum annual rate of growth is called the culmination of the mean annual increment.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Deferred grazing. Postponing grazing or resting grazing land for a prescribed period.

Deflation plain. An interdunal area excavated and maintained by the sorting out, lifting, and removal of loose, fine grained soil particles (clay, silt, and fine sand) by the turbulent eddy action of the wind.

Delta. A body of alluvium having a surface that is fan shaped and nearly flat; deposited at or near the mouth of a river or stream where it enters a body of relatively quiet water, generally a sea or lake.

Dense layer (in tables). A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.

Densic contact. A boundary between soil and coherent underlying material that restricts the penetration of roots, is not cemented, and is typically referred to as dense glacial till and as a Cd horizon.

Depth, soil. Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

Depression. Any relatively sunken part of the earth’s surface, especially a low-lying area surrounded by higher ground, that has few, if any, surface drainage outlets.

Diagnostic horizons. Combinations of specific soil characteristics that are indicative of certain classes of soils. Those that occur at the soil surface are called epipedons, and those that occur below the soil surface are called diagnostic subsurface horizons.

Dike. An intrusion of rock that cuts across the bedding or foliation of the pre-existing rock.

Diorite. A coarse-grained igneous rock consisting mainly of plagioclase but with smaller amounts of hornblende, biotite, and pyroxene. Quartz is absent or sparse. (See Quartz diorite.)

Dip slope. A slope of the land surface, roughly determined by and approximately conforming to the dip of the underlying bedrock.

Dissimilar soils. Soils that behave differently and require different management than the named soils and similar soils in a map unit.

Drainage class (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained,* and *very poorly drained*. These classes are defined in the “Soil Survey Manual.”

Drainage, surface. Runoff, or surface flow of water, from an area.

Drainageway. A general term for a course or channel along which water moves in draining an area. A term restricted to relatively small, linear depressions that at some time move concentrated water and either do not have a defined channel or have only a small defined channel.

Draw. A small stream valley that generally is shallower and more open than a ravine or gulch and that has a broader bottom. The present stream channel may appear inadequate to have cut the drainageway that it occupies.

Drift. A general term applied to all mineral material (clay, silt, sand, gravel, and boulders) transported by a glacier and deposited directly by or from the ice or transported by running water emanating from a glacier. Drift includes unstratified material (till) that forms moraines and stratified deposits that form outwash plains,

eskers, kames, varves, and glaciofluvial sediments. The term is generally applied to Pleistocene glacial deposits in areas that no longer contain glaciers.

Duff. A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

Dune. A low mound, ridge, bank, or hill of loose, windblown granular material (generally sand), either barren and capable of movement from place to place or covered and stabilized with vegetation but retaining its characteristic shape.

Durinodes. Nodules that are weakly cemented to indurated with silica oxide ($SiO2$).

Ecological habitat type. A unique combination of potential natural plant community, soil, landscape features, and climate that differs from other ecological habitat types in its ability to produce vegetation and its response to management.

Ecological site. An area where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. An ecological site is the product of all the environmental factors responsible for its development. It is typified by an association of species that differ from those on other ecological sites in kind and/or proportion of species or in total production.

Edaphic. Vegetation changes resulting from or influenced by soil rather than by climate.

Edge. Area where plant communities meet or where successional stages or vegetative conditions within plant communities meet.

Edge effect. The increased richness of flora and fauna in the transition zone where two plant communities or successional stages meet and mix.

Eluviation. The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

Endemic. Plant species restricted to or unique to a specific locality or area.

Endosaturation. A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

Eolian deposit. Sand-, silt-, or clay-sized clastic material transported and deposited primarily by wind, commonly in the form of a dune or a sheet of sand or loess.

Ephemeral stream. A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.

Episaturation. A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Erosion pavement. A surficial lag concentration or layer of gravel and other rock fragments that remains on the soil surface after sheet or rill erosion or wind has removed the finer soil particles and that tends to protect the underlying soil from further erosion.

Erosion surface. A land surface shaped by the action of erosion, especially by running water.

Escarpment. A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion

or faulting. Most commonly applied to cliffs produced by differential erosion. Synonym: scarp.

Extrusive rock. Igneous rock derived from deep-seated molten matter (magma) deposited and cooled on the earth's surface.

Fan remnant. A general term for landforms that are the remaining parts of older fan landforms, such as alluvial fans, that have been either dissected or partially buried.

Fault. A fracture or fracture zone of the earth with displacement along one side in respect to the other.

Feldspar. The most common minerals in the earth's crust. Feldspar contains silicon, aluminum, and oxygen and may contain potassium, calcium, and sodium.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fibric soil material (peat). The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

Field moisture capacity. The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity,* or *capillary capacity*.

Fill slope. A sloping surface consisting of excavated soil material from a road cut. It commonly is on the downhill side of the road.

Fine textured soil. Sandy clay, silty clay, or clay.

Fine-loamy. A loamy particle-size class that is 15 percent or more fine sand or coarser, including fragments as much as 3 inches in diameter, and is 18 to 34 percent clay in the fine-earth fraction.

Fine-silty. A loamy particle-size class that is less than 15 percent fine sand or coarser, including fragments as much as 3 inches in diameter, and is 18 to 34 percent clay in the fine-earth fraction.

Flood plain. The nearly level plain that borders a stream and is subject to flooding unless protected artificially.

Flood-plain landforms. A variety of constructional and erosional features produced by stream channel migration and flooding. Examples include backswamps, flood-plain splays, meanders, meander belts, meander scrolls, oxbow lakes, and natural levees.

Flood-plain splay. A fan-shaped deposit or other outspread deposit formed where an overloaded stream breaks through a levee (natural or artificial) and deposits its material (commonly coarse grained) on the flood plain.

Flood-plain step. An essentially flat, terrace-like alluvial surface within a valley that is frequently covered by floodwater from the present stream; any approximately horizontal surface still actively modified by fluvial scour and/or deposition. May occur individually or as a series of steps.

Fluvial. Of or pertaining to rivers or streams; produced by stream or river action.

Foothills. A region of steeply sloping hills that fringes a mountain range or high-plateau escarpment. The hills have relief of as much as 1,000 feet (300 meters).

Footslope. The concave surface at the base of a hillslope. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

Forb. Any herbaceous plant not a grass or a sedge.

Forest cover. All trees and other woody plants (underbrush) covering the ground in a forest.

Forest type. A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.

Forestland. Land on which the historic vegetation was dominated by a 25 percent overstory canopy cover of trees, as determined by crown perimeter-vertical projection. A tree is defined as a woody-stemmed plant that can grow to 4 meters (about 13 feet) in height at maturity.

Frigid. A soil temperature regime in which the mean annual soil temperature at a depth of 20 inches ranges from 33 to 46 degrees F. The mean summer soil temperature is more than 47 degrees for soils that have an O horizon. The difference between the mean winter soil temperature and the mean summer soil temperature is more than 9 degrees F.

Gabbro. Dark, coarse grained basic igneous rock that is the approximate intrusive equivalent of basalt.

Genesis, soil. The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Geomorphic surface. A mappable area of the earth's surface that has a common history; the area is of similar age and is formed by a set of processes during an episode of landscape evolution.

Geomorphology. The study of the classification, description, nature, origin, and development of landforms and their relationships to underlying structures and the history of geologic changes exhibited by the surface features.

Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

Granodiorite. Granitic rock that is intermediate in composition between granite and diorite.

Grassed waterway. A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel. Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Gravelly soil material. Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.

Grazing system, planned. A system for managing rangeland in which three or more fields are alternately grazed and then rested in a planned sequence for a period of years.

Green manure crop (agronomy). A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

Ground water. Water filling all the unblocked pores of the material below the water table.

Gully. A small channel with steep sides caused by erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Habitat type. The collective area occupied by a single plant association. It is defined and described on the basis of the vegetation and its associated environment.

Hanging valley. A tributary valley whose floor at the lower end is notably higher than the floor of the main valley at their junction.

Hard bedrock. Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

Hard to reclaim (in tables). Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Hardpan. A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.

Head slope (geomorphology). A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.

Hemic soil material (mucky peat). Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.

Hill. A generic term for an elevated area of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline. Slopes are generally more than 15 percent. The distinction between a hill and a mountain is arbitrary and may depend on local usage.

Hillslope. A generic term for the steeper part of a hill between its summit and the drainage line, valley flat, or depression floor at the base of a hill. In descending order, the components of a simple hillslope may include a shoulder slope, backslope, foot slope, and toeslope. All of these components may not be evident in any given hillslope continuum. Complex hillslopes may include two or more sequences of backslopes or toeslopes.

Histic epipedon. A thin, organic soil horizon that is saturated with water at some time during the year unless it is artificially drained. This horizon is at or near the surface of a mineral soil. It contains more than 12 percent organic carbon.

Historic climax plant community. The plant community that was best adapted to the unique combination of factors associated with the ecological site. It was in a natural dynamic equilibrium with the historic biotic, abiotic, and climatic factors on its ecological site in North America at the time of European immigration and settlement.

Holocene. The epoch of the Quaternary period of geologic time, extending from the end of the Pleistocene (about 10,000 to 12,000 years ago) to the present.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the “Soil Survey Manual.” The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that

in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Cd horizon.—Noncemented, root-restricting layer such as dense basal till.

Cr horizon.—Consolidated bedrock beneath the soil that has an extremely weakly cemented to moderately cemented rupture-resistance class.

R horizon.—Consolidated bedrock beneath the soil that has a strongly cemented or stronger rupture-resistance class.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties include depth to a seasonal high water table, the infiltration rate, and depth to a layer that significantly restricts the downward movement of water. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Hydrophytic vegetation. The macrophytic (flowering plants larger than microscopic) plant life in areas where the frequency and duration of inundation or soil saturation produce permanently or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species.

Igneous rock. Rock that was formed by cooling and solidification of magma and that has not been changed appreciably by weathering since its formation. Major varieties include plutonic and volcanic rock (e.g., andesite, basalt, and granite).

Illuviation. The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Impervious soil. A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

Indurated. Refers to having a hard, brittle consistency as a result of particles being held together by cementing substances such as silica, calcium carbonate, and iron. An indurated layer can be broken by a sharp blow of a hammer.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity. The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Intake rate. The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2	very low
0.2 to 0.4	low
0.4 to 0.75	moderately low
0.75 to 1.25	moderate
1.25 to 1.75	moderately high
1.75 to 2.5	high
More than 2.5	very high

Interfluve. A landform composed of the relatively undissected upland or ridge between two adjacent valleys containing streams flowing in the same general direction. An elevated area between two drainageways that sheds water to those drainageways.

Interfluve (geomorphology). A geomorphic component of hills consisting of the uppermost, comparatively level or gently sloping area of a hill; shoulders of backwearing hillslopes can narrow the upland or can merge, resulting in a strongly convex shape.

Intermittent stream. A stream, or reach of a stream, that does not flow year-round but that is commonly dry for 3 or more months out of 12 and whose channel is generally below the local water table. It flows only during wet periods or when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Intrusive rock. Igneous rock derived from molten matter (magmas) that invaded pre-existing rock and cooled below the surface of the earth.

Iron accumulations. See Redoximorphic features.

Iron depletions. See Redoximorphic features.

Irrigation. Application of water to soils to assist in production of crops. Methods of irrigation are:

Drip (or trickle).—Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

Sprinkler.—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

Isotopes. Forms of a chemical element whose nuclei have the atomic number Z but different atomic masses.

Knoll. A small, low, rounded hill rising above adjacent landforms.

Krotovinas. Irregular tubular streaks within one layer of soil material transported from another layer. They are caused by the filling of tunnels made by burrowing animals.

Ksat. See Saturated hydraulic conductivity.

Lacustrine deposit. Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

Lamella. A thin, discontinuous or continuous, generally horizontal layer of fine material (especially clay and iron oxides) that has been pedogenically concentrated (illuviated) within a coarser (e.g., sandy), eluviated layer.

Landform. Any physical, recognizable form or feature on the earth's surface that has a characteristic shape and range in composition and is produced by natural causes; it can span a wide range in size. Landforms provide an empirical description of similar portions of the earth's surface.

Landscape (soils). An assemblage, group, or family of spatially related, natural landforms over a relatively large area; the land surface which the eye can comprehend in a single view.

Landslide. A general, encompassing term for most types of mass movement landforms and processes involving the downslope transport and outward deposition of soil and rock materials caused by gravitational forces; the movement may or may not involve saturated materials. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.

Large stones (in tables). Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

Leaching. The removal of soluble material from soil or other material by percolating water.

Leeward. Being in or facing the direction toward which the wind is blowing.

Life form. A group of wildlife species whose requirements for habitat are satisfied by similar successional stages within a given ecological community.

Light textured soil. Sand or loamy sand.

Linear extensibility. Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at 1/3- or 1/10-bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Lithic contact. A boundary between soil and coherent underlying material, typically bedrock. The bedrock has a cementation class of strongly cemented or stronger and is typically referred to as an R horizon.

Lithologic discontinuity. A significant change in particle-size distribution or mineralogy that indicates a difference in the material from which the soil horizons have formed.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Loamy-skeletal. A particle-size class in which rock fragments 2 millimeters in diameter or larger make up 35 percent or more by volume. The fine-earth fraction is loamy.

Loess. Material transported and deposited by wind and consisting dominantly of silt-sized particles.

Longshore drift. Material (such as sand or gravel) that is moved parallel to and near a shore.

Low strength. The soil is not strong enough to support loads.

Macropores. Large pores that control the permeability and aeration of a soil. They include earthworm channels and many root channels. They are large enough that gravity moves water through them rapidly, allowing rainfall and irrigation water to infiltrate into the soil and excess water to drain through the soil.

Major Land Resource Area (MLRA). A broad geographic land area characterized by a particular pattern of soils, geology, climate, water resources, and land use. An area is typically continuous, but small separate areas can occur.

Mass movement. A generic term for the dislodgment and downslope transport of soil and rock material as a unit under direct gravitational stress.

Masses. See Redoximorphic features.

Matrix. The most extensive and connected landscape element type present; that which plays the dominant role in landscape functioning. Also, a landscape element surrounding a patch of vegetation.

Mature forest stage. A forest successional stage in which the most shade-tolerant adapted tree species are well represented (more than 50 percent composition) and are dominant in the middle to upper canopy layers. Trees generally are more than 9 inches in diameter at breast height, and the canopy cover is more than 25 percent.

Meander belt. The zone within which migration of a meandering channel occurs; the flood-plain area included between two imaginary lines drawn tangential to the outer bends of active channel loops.

Meander scar. A crescent-shaped, concave or linear mark on the face of a bluff or valley wall, produced by the lateral erosion of a meandering stream that impinged upon and undercut the bluff.

Meander scroll. One of a series of long, parallel, close-fitting, crescent-shaped ridges and troughs formed along the inner bank of a stream meander as the channel migrated laterally down-valley and toward the outer bank.

Mechanical treatment. Use of mechanical equipment for seeding, brush management, and other management practices.

Medial (family particle-size class). A substitute class term used for the family particle-size class in mineral soils.

Medial (textural modifier, such as medial loam). A USDA textural modifier used in conjunction with a USDA mineral soil texture to indicate unique physical and chemical properties. The properties are defined in Soil Taxonomy and are typically low bulk density, high content of iron and aluminum, and high retention of phosphate.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

Mesic. A soil temperature regime in which the mean annual temperature at a depth of 20 inches ranges from 47 to 58 degrees F. The difference between the mean winter soil temperature and the mean summer soil temperature is more than 9 degrees F.

Microclimate. The climate of a small distinct area, as of a forest or city, or a confined space, as of a building or greenhouse.

Micropores. Fine soil pores, typically a fraction of a millimeter in diameter. They are responsible for the available water capacity of soil through capillary forces. Much of the water held in micropores is available to plants, but some is held so tightly that plant roots cannot tap into it.

Mineral soil. Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage. Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area. A kind of map unit component that has little or no natural soil and supports little or no vegetation.

Moderately coarse textured soil. Coarse sandy loam, sandy loam, or fine sandy loam.

Moderately fine textured soil. Clay loam, sandy clay loam, or silty clay loam.

Moisture control section. The layer within a soil profile used to determine the soil moisture regime. The upper boundary is the depth to which a dry soil is moistened by 1 inch of water in 24 hours. The lower boundary is the depth to which a dry soil is moistened by 3 inches of water in 48 hours.

Mollic epipedon. A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

Moraine. In terms of glacial geology, a mound, ridge, or other topographically distinct accumulation of unsorted, unstratified drift, predominantly till, deposited primarily by the direct action of glacial ice in a variety of landforms. Also, a general term for a landform composed mainly of till (except for kame moraines, which are composed mainly of stratified outwash) that has been deposited by a glacier. Some types of moraines are disintegration, end, ground, kame, lateral, recessional, and terminal.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil. Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few, common,* and *many;* size—*fine, medium,* and *coarse;* and contrast—*faint, distinct,* and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium,* from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse,* more than 15 millimeters (about 0.6 inch).

Mountain. A generic term for an elevated area of the land surface, rising more than 1,000 feet (300 meters) above surrounding lowlands, commonly of restricted summit area (relative to a plateau) and generally having steep sides. A mountain can occur as a single, isolated mass or in a group forming a chain or range. Mountains are formed primarily by tectonic activity and/or volcanic action but can also be formed by differential erosion.

Mountain valleys. Any small, externally drained depression floored with either till or alluvium, that occurs on a mountain or within mountains. (See intermontane basins.)

Muck. Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)

Mucky peat. A USDA texture associated with organic soils that meet the degree of organic matter decomposition associated with hemic soil material.

Mudstone. A blocky or massive, fine grained sedimentary rock in which the proportions of clay and silt are approximately equal. Also, a general term for such material as clay, silt, claystone, siltstone, shale, and argillite and that should be used only when the amounts of clay and silt are not known or cannot be precisely identified.

Munsell notation. A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

Neutral soil. A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

Nodules. See Redoximorphic features.

Nose slope (geomorphology). A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent. Nose slopes consist dominantly of colluvium and slope-wash sediments (for example, slope alluvium).

Nutrient, plant. Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Ochric epipedon. A surface horizon of mineral soil that is too light in color, too high in chroma, too low in organic carbon, or too thin to be a mollic, umbric, or histic epipedon.

Organic matter. Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low	less than 0.5 percent
Low	0.5 to 1.0 percent
Moderately low	1.0 to 2.0 percent
Moderate	2.0 to 4.0 percent
High	4.0 to 8.0 percent
Very high	more than 8.0 percent

Orogenic. Of or pertaining to the process of mountain formation.

Overland flow. Water that runs across the land after rainfall, either before it enters a watercourse or after it leaves a watercourse as floodwater or after it rises to the surface naturally from underground.

Overstory. The trees in a forest stand that form the upper crown cover. (See Understory.)

Oxidation. Any chemical reaction that removes electrons from a molecule or atom.

Paleosol. A soil that formed on a landscape in the past that has distinctive morphological features resulting from a soil-forming environment that no longer exists.

Pan. A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan, fragipan, claypan, duripan, placic horizon, plowpan,* and *traffic pan*.

Paralithic contact. A boundary between soil and coherent underlying material that can be dug with difficulty with a spade. It is referred to as weathered bedrock, has a cementation class of moderately cemented or weaker, and is typically referred to as a Cr horizon.

Pararock fragments. Fragments of rock that are 2 millimeters in diameter or more (e.g., paragravel, paracobble, or parastone). Pararock fragments have a moderately cemented to extremely weakly cemented rupture-resistance class.

Parent material. The unconsolidated organic and mineral material in which soil forms.

Peat. Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture. (See Fibric soil material.)

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedisediment. A layer of sediment, eroded from the shoulder and backslope of an erosional slope, that lies on and is being (or was) transported across a gently sloping erosional surface at the foot of a receding hill or mountain slope.

Pedogenesis. The processes of formation and development of soils.

Pedologic. Of or pertaining to the processes of soil formation.

Pedon. The smallest volume that can be called “a soil.” A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation. The movement of water through the soil.

Permeability. The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as “saturated hydraulic conductivity,” which is defined in the “Soil Survey Manual” and in this glossary. Terms describing permeability, measured in inches per hour, are as follows:

Impermeable	less than 0.0015 inch
Very slow	0.0015 to 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

See “Saturated hydraulic conductivity” for conversions of inches per hour to micrometers per second.

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Phase, soil. A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

Piping (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Plagioclase feldspar. A feldspar that contains sodium and/or calcium in addition to aluminum, silicon, and oxygen.

Plant association. A kind of climax plant community consisting of stands with essentially the same dominant species in corresponding layers.

Plant community. An assemblage of plants living together, reflecting no particular ecological status; a vegetative complex unique in its combination of plants.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Pleistocene. The epoch of geologic time from approximately 10,000 to 2 million years ago. The earlier of the two epochs comprising the Quaternary period. Also called the Glacial epoch.

Plowpan. A compacted layer formed in the soil directly below the plowed layer.

Point bar deposits. Material accumulated on one of a series of arc-like ridges of sand and gravel on the inside of a growing meander by the slow addition of individual accretions accompanying migration of the stream channel toward the outer bank.

Pole stage. A forest successional stage in which the vegetation of a stand is dominantly a moderately dense to very dense overstory of trees that have minimal vertical crown depth. The trees generally range from about 5 to 9 inches in diameter at breast height, and the canopy cover normally exceeds 35 percent.

Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poorly graded. Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

Pore linings. See Redoximorphic features.

Potential native plant community. See Climax plant community.

Potential rooting depth (effective rooting depth). Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

Prescribed burning. Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day. Removal of logging debris after timber harvesting (slash burning) is an example.

Productivity, soil. The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Proper grazing use. Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

Puddling. Compaction of the soil surface during wet periods to the point that the soil particles are rearranged to a massive state.

Pyroclastic. Pertaining to fragmental material produced by commonly explosive, aerial ejection of clastic particles from a volcanic vent.

Pyroxene. Dark-colored, rock-forming silicate minerals containing varying amounts of calcium, sodium, magnesium, iron, and aluminum.

Quaternary. The period of the Cenozoic era of geologic time, extending from the end of the Tertiary (about 2 million years ago) to the present and comprising two epochs, the Pleistocene (Ice Age) and the Holocene (Recent).

Radiocarbon dating. A scientific method involving the use of the naturally occurring isotope of carbon-14 to determine the age of organic material as much as about 50,000 years old.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed as pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Redoximorphic concentrations. See Redoximorphic features.

Redoximorphic depletions. See Redoximorphic features.

Redoximorphic features. Redoximorphic features are associated with wetness and result from alternating periods of reduction and oxidation of iron and manganese compounds in the soil. Reduction occurs during saturation with water, and oxidation occurs when the soil is not saturated. Characteristic color patterns are created by these processes. The reduced iron and manganese ions may be removed from a soil if vertical or lateral fluxes of water occur, in which case there is no iron or manganese precipitation in that soil. Wherever the iron and manganese are oxidized and precipitated, they form either soft masses or hard concretions or nodules. Movement of iron and manganese as a result of redoximorphic processes in a soil may result in redoximorphic features that are defined as follows:

1. Redoximorphic concentrations.—These are zones of apparent accumulation of iron-manganese oxides, including:

   A. Nodules and concretions, which are cemented bodies that can be removed from the soil intact. Concretions are distinguished from nodules on the basis of internal organization. A concretion typically has concentric layers that are visible to the naked eye. Nodules do not have visible organized internal structure; *and*

   B. Masses, which are noncemented concentrations of substances within the soil matrix; *and*

   C. Pore linings, i.e., zones of accumulation along pores that may be either coatings on pore surfaces or impregnations from the matrix adjacent to the pores.

2. Redoximorphic depletions.—These are zones of low chroma (chroma less than that of the matrix) where either iron-manganese oxides alone or both iron-manganese oxides and clay have been stripped out, including:

   A. Iron depletions, i.e., zones that contain low amounts of iron and manganese oxides but have a clay content similar to that of the adjacent matrix; *and*

   B. Clay depletions, i.e., zones that contain low amounts of iron, manganese, and clay (often referred to as silt coatings or skeletans).

3. Reduced matrix.—This is a soil matrix that has low chroma *in situ* but undergoes a change in hue or chroma within 30 minutes after the soil material has been exposed to air.

Reduced matrix. See Redoximorphic features.

Reduction. Any chemical reaction in which there is uptake of an electron by a molecule or atom.

Regolith. All unconsolidated earth materials above the solid bedrock. It includes material weathered in place from all kinds of bedrock and alluvial, glacial, eolian, lacustrine, and pyroclastic deposits.

Relief. The relative difference in elevation between the upland summits and the lowlands or valleys of a given region.

Residuum (residual soil material). Unconsolidated, weathered or partly weathered mineral material that accumulated as bedrock disintegrated in place.

Restrictive feature. A nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly reduce the movement of water and/or air through the soil or that otherwise provide an unfavorable root environment.

Rill. A very small, steep-sided channel resulting from erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. A rill generally is not an obstacle to wheeled vehicles and is shallow enough to be smoothed over by ordinary tillage.

Riparian. Refers to areas adjacent to water or wetlands; vegetation is dependent on water or use and management directly impacts the water or wetlands.

Riser. The vertical or steep side slope (e.g., escarpment) of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural, steplike landforms, such as successive stream terraces.

Riverine. The environment consisting of navigable rivers.

Riverwash. Unstable areas of sandy, silty, clayey, gravelly, and cobbly sediment. These areas are flooded, washed, and reworked by rivers so frequently that they support little or no vegetation.

Road cut. A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

Rock fragments. Rock or mineral fragments that are 2 millimeters in diameter or more (i.e., gravel, cobbles, stones, and boulders). Rock fragments have a strongly cemented or stronger rupture-resistance class.

Rock outcrop. Exposures of bare bedrock.

Rubble land. Areas that consist of cobbles, stones, and boulders, commonly at the base of mountains.

Root zone. The part of the soil that can be penetrated by plant roots.

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Saline soil. A soil containing soluble salts in an amount that impairs growth of plants. A saline soil does not contain excess exchangeable sodium.

Salmonid. Any species within the family of ray-finned bony fish, such as salmon and trout, that have the last three vertebrae upturned on the spinal column.

Sand. As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sand splay. Area where fan-shaped or other outspread deposits have formed as a result of an overloaded stream breaking through a levee and depositing sandy material on the flood plain.

Sandstone. Sedimentary rock containing dominantly sand-sized particles.

Sandy. A particle-size class in which the texture of the fine-earth fraction is sand or loamy sand but not loamy very fine sand or very fine sand; it is less than 35 percent rock fragments by volume.

Sandy-skeletal. A particle-size class that is 35 percent or more, by volume, rock fragments 2 millimeters in diameter or larger. The fine-earth fraction is sandy.

Sapling/pole stage. A forest successional stage in which the vegetation of a stand is dominantly saplings and pole-sized trees (generally 2 to 9 inches in diameter at breast height). The canopy cover and understory production are intermediate between the herbaceous or shrub stage and the pole stage.

Sapric soil material (muck). The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

Saprolite. Soft, friable bedrock that retains the fabric and structure of the parent rock while exhibiting weathering of crystals.

Saturated hydraulic conductivity (Ksat). The ease with which pores of a saturated soil transmit water. Formally, the proportionality coefficient that expresses the relationship of the rate of water movement to hydraulic gradient in Darcy's Law, a law that describes the rate of water movement through porous media. Commonly abbreviated as "Ksat." Terms describing saturated hydraulic conductivity are *very high*, 100 or more micrometers per second (14.17 or more inches per hour); *high*, 10 to 100 micrometers per second (1.417 to 14.17 inches per hour); *moderately high*, 1 to 10 micrometers per second (0.1417 inch to 1.417 inches per hour); *moderately low*, 0.1 to 1 micrometer per second (0.01417 to 0.1417 inch per hour); *low*, 0.01 to 0.1 micrometer per second (0.001417 to 0.01417 inch per hour); and *very low*, less than 0.01 micrometer per second (less than 0.001417 inch per hour). To convert micrometers per second to inches per hour, multiply micrometers per second by 0.1417.

Saturation. Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Savanna. A plant community or vegetation type that is dominantly grasses with scattered, drought-resistant trees.

Scarification. The act of abrading, scratching, loosening, crushing, or modifying the surface to increase water absorption or to provide a more tillable soil.

Seasonal water table. Refers to a water table that fluctuates with the seasons or during periods of high precipitation.

Sedimentary rock. A consolidated deposit of clastic particles, chemical precipitates, or organic remains accumulated at or near the surface of the earth under normal low temperature and pressure conditions. Sedimentary rocks include consolidated equivalents of alluvium, colluvium, drift, and eolian, lacustrine, and marine deposits. Examples are sandstone, siltstone, mudstone, claystone, shale, conglomerate, limestone, dolomite, and coal.

Sequum. A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

Seral. Refers to the relative transitory aggregation of plants and animals within a sere; a preclimax stage of succession.

Seral species. A species associated with the early or middle stages of ecological succession.

Seral stand. A vegetative community composed of seral species.

Sere. The stages in an ecological succession.

Series, soil. A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Shale. Sedimentary rock that formed by the hardening of a deposit of clay, silty clay, or silty clay loam and that has a tendency to split into thin layers.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Shoulder. The convex, erosional surface near the top of a hillslope. A shoulder is a transition from summit to backslope.

Shrink-swell (in tables). The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Shrub-coppice dune. A small, streamlined dune that forms around brush and clump vegetation.

Side slope (geomorphology). A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel. Side slopes are dominantly colluvium and slope-wash sediments.

Silica. A combination of silicon and oxygen. The mineral form is called quartz.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Siltstone. An indurated silt having the texture and composition of shale but lacking its fine lamination or fissility; a massive mudstone in which silt predominates over clay.

Silvicultural. Refers to the forestry-related science that involves the growing and tending of trees and forests.

Similar soils. Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Site class. A group of site indexes, each having a specific production capability level. Each level is represented by a site curve.

Site curve (50-year). A set of related curves on a graph that shows the average height of dominant trees for the range of ages on soils that differ in productivity. Each level is represented by a curve. The basis of the curve is the height of dominant trees that are 50 years old or 50 years old at breast height.

Site curve (100-year). A set of related curves on a graph that shows the average height of dominant and co-dominant trees for the range of ages on soils that differ in productivity. Each level is represented by a curve. The basis of the curve is the height of dominant and co-dominant trees that are 100 years old or 100 years old at breast height.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

Skeletal soil. A soil that has 35 percent rock fragments or more, by volume, in the particle-size control section.

Skid trail. A trail or furrow made by logs skidding over the ground surface.

Slickensides (pedogenic). Grooved, striated, and/or glossy (shiny) slip faces on structural peds, such as wedges; produced by shrink-swell processes, most commonly in soils that have a high content of expansive clays.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance. In this survey, classes for simple slopes are as follows:

Level	0 to 1 percent
Nearly level	0 to 3 percent
Very gently sloping	0 to 7 percent
Gently sloping	3 to 15 percent
Strongly sloping	5 to 30 percent
Moderately steep	12 to 30 percent
Steep	30 to 60 percent
Very steep	60 percent and higher

Slope alluvium. Sediment gradually transported down the slopes of mountains or hills primarily by nonchannel alluvial processes (i.e., slope-wash processes) and characterized by particle sorting. Lateral particle sorting is evident on long slopes. In a profile sequence, sediments may be distinguished by differences in size and/or specific gravity of rock fragments and may be separated by stone lines. Burnished peds and sorting of rounded or subrounded gravel or cobbles distinguish these materials from unsorted colluvial deposits.

Slow refill (in tables). The slow filling of ponds, resulting from restricted water transmission in the soil.

Slow water movement (in tables). Restricted downward movement of water through the soil. (See Saturated hydraulic conductivity.)

Slump. A mass movement process characterized by a landslide involving shearing and rotary movement of a generally independent mass of rock or earth along a curved slip surface. The mass (slump) has its axis parallel to the slope from which it descends. A slump surface commonly exhibits a reversed slope facing uphill.

Sodium adsorption ratio (SAR). A measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration.

Soft bedrock. Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief and by the passage of time.

Soil aggregates. The many soil particles held together in a single mass or cluster, such as a clod, crumb, block, or prism.

Soil separates. Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand	2.0 to 1.0
Coarse sand	1.0 to 0.5
Medium sand	0.5 to 0.25
Fine sand	0.25 to 0.10
Very fine sand	0.10 to 0.05
Silt	0.05 to 0.002
Clay	less than 0.002

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

Spodic horizon. An illuvial horizon that is 85 percent or more spodic material. This layer is dominated by active amorphous material that is illuvial and is composed of organic matter and aluminum, with or without iron.

Stone line. In a vertical cross section, a line formed by scattered fragments or a discrete layer of angular and subangular rock fragments (commonly a gravel- or cobble-sized lag concentration) that formerly was draped across a topographic surface and was later buried by additional sediments. A stone line generally caps material that was subject to weathering, soil formation, and erosion before burial. Many stone lines seem to be buried erosion pavements, originally formed by sheet and rill erosion across the land surface.

Stones. Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

Stoniness (or boulderiness). The relative proportion of larger rock fragments on the surface layer. Used as map unit phase designation for soils containing sufficient amounts of stones and boulders to impose important restrictions on use and management. These phases should not be confused with the use of fragments as textural modifiers. The four phases recognized in this survey are:

Stony (or bouldery).—The areas have enough stones and boulders at or near the surface to be a continuing nuisance during operations that mix the surface layer, but they do not make most such operations impractical. Conventional, wheeled vehicles can move with reasonable freedom over the area. Rocks may damage

both the equipment that mixes the soil and the vehicles that move on the surface. Large rock fragments cover about 0.01 to 0.1 percent of the surface.

Very stony (or very bouldery).—The areas have so many stones and boulders at or near the surface that operations that mix the surface layer either require heavy equipment or use of implements that can operate between the larger ones. Tillage with conventionally powered farm equipment is impractical. Wheeled tractors and vehicles with high clearance can operate on carefully chosen routes over and around stones and boulders. Large rock fragments cover about 0.1 to 3 percent of the surface.

Extremely stony (or extremely bouldery).—The areas have so many stones and boulders at or near the surface that wheeled powered equipment, other than some special types, can operate only along selected routes. Tracked vehicles can be used in most places, although some routes have to be cleared. Large rock fragments cover about 3 to 15 percent of the surface.

Rubbly and very rubbly.—The areas have so many stones and boulders at or near the surface that tracked vehicles cannot be used in most places. Large rock fragments cover about 15 to 90 percent of the surface.

Stony. Refers to a soil containing stones in numbers that interfere with or prevent tillage.

Strata. Collectively, the rock layers of a geologic formation that are generally the same type of rock throughout.

Strath terrace. A type of stream terrace; formed as an erosional surface cut on bedrock and thinly mantled with stream deposits (alluvium).

Stratigraphy. The branch of geology that deals with the definition and interpretation of layered earth material; the conditions of their formation; their characteristics, arrangement, sequence, age, and distribution; and their correlation through the study of evidence such as fossils. The term is applied both to the characteristics and a study of the characteristics.

Stream terrace. One of a series of platforms in a stream valley, flanking and more or less parallel to the stream channel. Originally formed near the level of the stream. Represents the remnants of an abandoned flood plain, streambed, or valley floor produced during a former state of fluvial erosion or deposition.

Structural diversity. The wide variations in plant communities as they relate to the physical elements of structure.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grained* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Structure, vegetation. The various horizontal and vertical physical elements of the vegetation.

Subduction. The process of one lithospheric plate descending beneath another.

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsoiling. Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

Substratum. The part of the soil below the solum.

Subsurface layer. Technically, the E horizon. Generally refers to a leached horizon that is lighter in color and lower in content of organic matter than the overlying surface layer.

Summit. The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

Surface layer. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the “plow layer,” or the “Ap horizon.”

Surface soil. The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

Syncline. A unit of folded strata that is concave upward.

Talus. Rock fragments of any size or shape (commonly coarse and angular) derived from and lying at the base of a cliff or very steep rock slope. The accumulated mass of such loose broken rock formed chiefly by falling, rolling, or sliding.

Taxadjuncts. Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior. Soils are recognized as taxadjuncts only when one or more of their characteristics are slightly outside the range defined for the family of the series for which the soils are named.

Tectonic. Pertaining to the forces involved in, or the resulting structures of, deformation of the earth's crust.

Tephra. A collective term for all clastic volcanic material that is ejected from a vent during an eruption and transported through the air. It includes ash, blocks, cinders, lapilli, scoria, and pumice.

Terminal moraine. An end moraine that marks the farthest advance of a glacier. It typically has the form of a massive arcuate or concentric ridge, or complex of ridges, and is underlain by till and other types of drift.

Terrace. (geomorphology). A steplike surface, bordering a valley floor or shoreline, that represents the former position of a flood plain, lake, or seashore. The term is usually applied both to the relatively flat summit surface (tread) that was cut or built by stream or wave action and to the steeper descending slope (scarp or riser) that has graded to a lower base level of erosion.

Terrane. A group of related rocks and the area in which they are exposed at the earth's surface.

Tertiary. The period of geologic time from approximately 2 to 63 million years ago (radiometric dates). The earlier of the two geologic periods comprising the Cenozoic era.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."

Thin layer (in tables). Otherwise suitable soil material that is too thin for the specified use.

Thrust fault. A fault with a dip of 45 degrees or less on which the hanging wall appears to have moved upward relative to the footwall.

Tidal flat. An extensive, nearly horizontal, marshy or barren tract of land that is alternately covered and uncovered by the tide. It consists of unconsolidated sediment that is mostly clay, silt, and sand.

Till. Dominantly unsorted and nonstratified drift, generally unconsolidated and deposited directly by a glacier without subsequent reworking by meltwater, and consisting of a heterogeneous mixture of clay, silt, sand, gravel, stones, and boulders; rock fragments of various lithologies are embedded within a finer matrix that can range from clay to sandy loam.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toeslope. The gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

Topsoil. The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Trace elements. Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Transpiration. Continuous evaporation of water from the leaves of plants and its corresponding uptake from the roots.

Tread. The flat to gently sloping, topmost, laterally extensive slope of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural steplike landforms, such as successive stream terraces.

Tuff. A generic term for any consolidated or cemented deposit that is 50 percent or more volcanic ash.

Udic. A soil moisture regime common to a climate that has moisture throughout the year. The soil moisture control section is dry for less than 45 consecutive days during the 4 months following the summer solstice.

Umbric epipedon. A thick, dark-colored, humus-rich surface horizon that has low base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

Unconsolidated material. Loose, unattached, unstratified particles of soil material, such as gravel, sand, or sediment. It is without combined rigidity or cohesiveness because of a lack of binding or natural mineral cement.

Understory. Plants in a forest community that grow to a height of 4.5 feet or less.

Upland. An informal, general term for the higher ground of a region, in contrast with a low-lying adjacent area, such as a valley or plain, or for land at a higher elevation than the flood plain or low stream terrace; land above the footslope zone of the hillslope continuum.

Valley fill. The unconsolidated sediment deposited by any agent (water, wind, ice, or mass wasting) so as to fill or partly fill a valley.

Valleyside alluvium. A concave slopewash deposit at the base of a landscape position such as a hill slope, mountain slope, or terrace escarpment. It may or may not include the alluvial toeslope.

Variegation. Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

Vegetative site. A distinctive kind of site that produces a characteristic natural plant community that differs from natural plant communities on other vegetative sites in kind, amount, and proportion of forage plants.

Vertebrates. Animals that have a backbone, including mammals, birds, reptiles, amphibians, and fish.

Vertical structure. The configuration of the elements of a habitat, plant or animal community, or forest stand in a vertical orientation.

Water bars. Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity of water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.

Weathering. All physical disintegration, chemical decomposition, and biologically induced changes in rocks or other deposits at or near the earth’s surface by atmospheric or biologic agents or by circulating surface waters but involving essentially no transport of the altered material.

Welded tuff. A glass-rich rock that has been indurated by the welding together of its glass shards under the combined action of the heat retained by particles, the weight of overlying material, and hot gasses.

Well graded. Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wilting point (or permanent wilting point). The moisture content of soil, on an oven-dry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Windthrow. The uprooting and tipping over of trees by the wind.

Xeric. A soil moisture regime common to a climate having moist winters and dry summers. The soils are dry in the moisture control section for more than 45 consecutive days during the 4 months following the summer solstice and are moist for more than 45 consecutive days during the 4 months following the winter solstice.

Young forest stage. A forest successional stage in which the overstory vegetation of a stand is dominantly shade-intolerant successional trees. Trees generally are more than 9 inches in diameter at breast height, and the canopy cover exceeds 25 percent. Shade-tolerant climax tree species can be absent to nearly well represented (less than 50 percent).

Tables

Table 1.--Temperature and Precipitation

(Recorded in the period 1971 to 2000 at Cloverdale, Oregon [1682])

Month	Temperature						Preci		
	Average daily maximum	Average daily minimum	Average daily	2 years in 10 will have-- Maximum temperature higher than--	2 years in 10 will have-- Minimum temperature lower than--	Average number of growing degree days*	Average	2 years in will have Less than--	2 years in will have Mo tha
	°F	*°F*	*°F*	*°F*	*°F*	*Units*	*In*	*In*	*I*
January-----	50.9	37.6	44.2	64	22	158	11.85	6.76	17.
February----	53.5	38.4	46.0	70	23	180	9.95	6.32	13.
March-------	55.1	38.9	47.0	71	28	219	9.41	6.65	12.
April-------	58.1	40.4	49.3	77	31	278	5.91	3.54	8.
May---------	62.3	44.1	53.2	83	34	406	4.61	2.72	6.
June--------	65.9	47.5	56.7	86	37	501	3.16	1.65	4.
July--------	70.0	49.9	59.9	86	39	617	1.50	0.42	2.
August------	71.1	50.2	60.7	89	40	640	1.43	0.50	2.
September---	70.1	48.4	59.3	90	37	577	3.69	1.06	6.
October-----	63.9	44.2	54.1	85	32	434	6.16	2.84	9.
November----	55.1	40.7	47.9	69	26	245	12.57	7.85	17.
December----	50.7	37.5	44.1	63	20	155	12.81	7.60	17.
Yearly:									
Average----	60.6	43.1	51.9	---	---	---	---	---	--
Extreme----	106.0	9.0	---	95	16	---	---	---	--
Total------	---	---	---	---	---	4,410	83.06	67.56	95.

Average number of days per year with at least 1 inch of snow on the ground: 0

*A growing degree day is a unit of heat available for plant growth. It can be calcul
maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temper
growth is minimal for the principal crops in the area (Threshold: 40 degrees F).

Table 2.--Freeze Dates in Spring and Fall

(Recorded in the period 1971 to 2000 at Cloverdale, Oregon [1682])

Probability	Temperature		
	24 °F or lower	28 °F or lower	32 °F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	February 8	March 6	April 27
2 years in 10 later than--	January 27	February 23	April 20
5 years in 10 later than--	December 20	January 29	April 6
First freezing temperature in fall:			
1 year in 10 earlier than--	December 2	November 6	October 21
2 years in 10 earlier than--	December 19	November 20	October 30
5 years in 10 earlier than--	February 3	December 16	November 17

Table 3.--Growing Season

(Recorded in the period 1971 to 2000 at Cloverdale, Oregon [1682])

Probability	Daily minimum temperature during growing season		
	Higher than 24 °F	Higher than 28 °F	Higher than 32 °F
	Days	*Days*	*Days*
9 years in 10----------	319	262	187
8 years in 10----------	343	282	200
5 years in 10----------	>365	324	225
2 years in 10----------	>365	>365	249
1 year in 10-----------	>365	>365	262

Table 4.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
1A	Brenner silt loam, 0 to 1 percent slopes	2,958	0.4
2A	Fluvaquents-Histosols complex, 0 to 1 percent slopes	2,579	0.4
3A	Coquille silt loam, 0 to 1 percent slopes	572	*
4D	Ginsberg medial loam, 5 to 30 percent slopes	13,942	1.9
4E	Ginsberg-Klistan complex, 30 to 60 percent slopes	10,730	1.5
5E	Ferrelo loam, 30 to 60 percent slopes	62	*
6D	Horseprairie-Ferrelo complex, 3 to 20 percent slopes	257	*
7	Dune land	1,117	0.2
8A	Depoe loam, 0 to 3 percent slopes	32	*
9B	Waldport fine sand, 0 to 5 percent slopes	80	*
9C	Waldport fine sand, 3 to 15 percent slopes	42	*
9D	Waldport fine sand, 5 to 30 percent slopes	237	*
9E	Waldport fine sand, 30 to 60 percent slopes	294	*
10B	Waldport fine sand, thin surface, 0 to 5 percent slopes	678	*
10C	Waldport fine sand, thin surface, 3 to 12 percent slopes	899	0.1
10E	Waldport fine sand, thin surface, 15 to 60 percent slopes	926	0.1
11B	Netarts fine sandy loam, 0 to 5 percent slopes	227	*
11C	Netarts fine sandy loam, 3 to 12 percent slopes	37	*
11D	Netarts fine sandy loam, 5 to 30 percent slopes	1,273	0.2
11E	Netarts fine sandy loam, 30 to 60 percent slopes	353	*
12B	Yaquina loamy fine sand, 0 to 5 percent slopes	138	*
13B	Waldport,thin surface-Heceta fine sands, 0 to 5 percent slopes	1,871	0.3
14A	Heceta fine sand, 0 to 3 percent slopes	644	*
15B	Netarts-Yaquina complex, 0 to 5 percent slopes	44	*
16F	Caterl-Laderly-Murtip complex, 60 to 90 percent slopes	27,079	3.8
17B	Chitwood-Hebo complex, 0 to 5 percent slopes	1,998	0.3
18B	Chitwood medial silt loam, 0 to 7 percent slopes	460	*
18C	Chitwood medial silt loam, 7 to 15 percent slopes	132	*
19E	Klootchie medial silt loam, 30 to 60 percent slopes	11,439	1.6
20D	Klootchie-Necanicum complex, 5 to 30 percent slopes	10,230	1.4
20E	Klootchie-Necanicum complex, 30 to 60 percent slopes	69,915	9.7
21F	Necanicum-Ascar-Klootchie complex, 60 to 90 percent slopes	68,200	9.5
22F	Ascar-Necanicum-Rock outcrop complex, 60 to 90 percent slopes	9,053	1.3
23F	Rock outcrop-Ascar complex, 40 to 100 percent slopes	205	*
24C	Lebam medial silt loam, 3 to 12 percent slopes	326	*
24D	Lebam medial silt loam, 5 to 30 percent slopes	9,479	1.3
25E	Lebam-Necanicum complex, 30 to 60 percent slopes	4,487	0.6
26F	Lebam-Necanicum complex, 60 to 90 percent slopes	514	*
28D	Templeton-Necanicum complex, 5 to 30 percent slopes	2,714	0.4
29D	Templeton-Klootchie complex, 5 to 30 percent slopes	4,220	0.6
29E	Templeton-Klootchie complex, 30 to 60 percent slopes	15,269	2.1
30D	Templeton medial silt loam, 5 to 30 percent slopes	9,295	1.3
30E	Templeton-Ecola medial silt loams, 30 to 60 percent slopes	18,666	2.6
30F	Templeton-Ecola medial silt loams, 60 to 90 percent slopes	319	*
31D	Tolovana-Templeton medial silt loams, 5 to 30 percent slopes	7,677	1.1
31E	Tolovana-Templeton medial silt loams, 30 to 60 percent slopes	11,999	1.7
32D	Munsoncreek-Flowerpot complex, 5 to 30 percent slopes	11,933	1.7
32E	Munsoncreek-Templeton medial silt loams, 30 to 60 percent slopes	4,101	0.6
33D	Tolovana medial silt loam, 5 to 30 percent slopes	396	*
37D	Templeton-Skipanon complex, 5 to 30 percent slopes	3,980	0.6
37E	Templeton-Skipanon complex, 30 to 60 percent slopes	601	*
38E	Templeton-Necanicum complex, 30 to 60 percent slopes	9,575	1.3
43F	Klistan-Harslow-Hemcross complex, 60 to 90 percent slopes	83,176	11.5
44E	Klistan-Harslow-Rock outcrop complex, 30 to 60 percent slopes	151	*
44F	Harslow-Klistan-Rock outcrop complex, 60 to 90 percent slopes	12,599	1.7
45B	Hebo silty clay loam, 0 to 5 percent slopes	1,140	0.2
48D	Hemcross-Klistan complex, 5 to 30 percent slopes	12,812	1.8
48E	Hemcross-Klistan complex, 30 to 60 percent slopes	61,752	8.6
50B	Walluski medial silt loam, 0 to 7 percent slopes	245	*
51B	Walluski-Chitwood medial silt loams, 0 to 7 percent slopes	147	*
51C	Walluski-Chitwood medial silt loams, 3 to 15 percent slopes	1,066	0.1
54B	Knappa medial silt loam, 0 to 7 percent slopes	453	*

See footnote at end of table.

Table 4.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
55A	Histosols-Water complex, 0 to 1 percent slopes	336	*
56B	Wolfer medial silt loam, 0 to 5 percent slopes	371	*
56C	Wolfer medial silt loam, 3 to 15 percent slopes	288	*
57B	Condorbridge gravelly medial loam, 0 to 7 percent slopes	519	*
57C	Condorbridge gravelly medial loam, 3 to 15 percent slopes	1,210	0.2
58C	Knappa medial silt loam, 3 to 15 percent slopes	859	0.1
59B	Chitwood-Knappa medial silt loams, 0 to 7 percent slopes	2,487	0.3
60E	Caterl-Laderly-Rock outcrop complex, 30 to 60 percent slopes	138	*
60F	Laderly-Caterl-Rock outcrop complex, 60 to 90 percent slopes	4,922	0.7
61F	Laderly-Rock outcrop-Caterl complex, 60 to 90 percent south slopes	3,700	0.5
62F	Rock outcrop-Laderly complex, 40 to 100 percent slopes	554	*
70D	Murtip-Caterl-Laderly complex, 5 to 30 percent slopes	16,433	2.3
70E	Murtip-Caterl-Laderly complex, 30 to 60 percent slopes	33,239	4.6
71D	McMille-Mutt medial silt loams, 5 to 30 percent slopes	528	*
72D	Caterl-Murtip complex, clayey, 5 to 30 percent slopes	1,154	0.2
73A	Nehalem silt loam, 0 to 3 percent slopes, frequently flooded	868	0.1
74A	Nehalem silt loam, 0 to 3 percent slopes	5,197	0.7
76A	Nestucca silt loam, 0 to 3 percent slopes	827	0.1
77A	Nestucca-Brenner silt loams, 0 to 3 percent slopes	2,205	0.3
80B	Quillamook medial silt loam, 0 to 7 percent slopes	752	0.1
81B	Quillamook complex, 0 to 7 percent slopes	1,645	0.2
81C	Quillamook complex, 3 to 15 percent slopes	120	*
89A	Udifluvents-Riverwash-Water complex, 0 to 3 percent slopes	451	*
90A	Yachats very fine sandy loam, 0 to 3 percent slopes	914	0.1
91A	Gauldy loam, 0 to 3 percent slopes	102	*
92A	Yachats-Gauldy complex, 0 to 3 percent slopes	316	*
93B	Gauldy complex, 0 to 5 percent slopes	527	*
94B	Ginger-Quillamook-Urban land complex, 0 to 7 percent slopes	381	*
95B	Urban land-Quillamook complex, 0 to 7 percent slopes	450	*
96B	Ginger-Hebo complex, 0 to 5 percent slopes	412	*
99	Beaches	2,140	0.3
100B	Urban land-Udorthents complex, 0 to 7 percent slopes	1,201	0.2
101B	Urban land-Udorthents complex, 0 to 7 percent slopes, flooded	168	*
102A	Fluvaquents-Histosols complex, 0 to 1 percent slopes, diked	778	0.1
103A	Coquille silt loam, 0 to 1 percent slopes, diked	4,696	0.7
104A	Coquille-Brenner-Nehalem association, 0 to 3 percent slopes, protected	454	*
110F	Waldport fine sand, thin surface, 60 to 90 percent slopes	122	*
115A	Aquepts, 0 to 1 percent slopes	698	*
116A	Aquepts, warm, 0 to 1 percent slopes	330	*
118B	Oxyaquic Hapludands-Alic Hapludands complex, 0 to 7 percent slopes	999	0.1
119B	Oxyaquic Fulvudands-Typic Fulvudands complex, 0 to 7 percent slopes	1,432	0.2
120C	Alic Hapludands complex, 3 to 15 percent slopes	1,439	0.2
121D	Fendall-Munsoncreek medial silt loams, 5 to 30 percent slopes	264	*
125B	Siletz medial silt loam, 0 to 7 percent slopes	1,390	0.2
126B	Siletz medial silt loam, warm, 0 to 7 percent slopes	154	*
127C	Condorbridge gravelly medial loam, warm, 3 to 15 percent slopes	181	*
128B	Siletz-Wolfer medial silt loams, 0 to 7 percent slopes	814	0.1
144F	Harslow-Rock outcrop-Klistan complex, 60 to 90 percent south slopes	9,968	1.4
145F	Rock outcrop-Harslow complex, 40 to 100 percent slopes	580	*
156F	Sevencedars-Newanna complex, 60 to 90 percent slopes	2,071	0.3
157D	Caterl very cobbly medial loam, till substratum, 5 to 30 percent slopes	128	*
157E	Caterl very cobbly medial loam, till substratum, 30 to 60 percent slopes	674	*
157F	Caterl very cobbly medial loam, till substratum, 60 to 90 percent slopes	77	*
158D	Sevencedars very cobbly medial loam, till substratum, 5 to 30 percent slopes	50	*
158E	Sevencedars very cobbly medial loam, till substratum, 30 to 60 percent slopes	307	*
158F	Sevencedars very cobbly medial loam, till substratum, 60 to 90 percent slopes	105	*
159D	Sevencedars very cobbly medial loam, clayey, 5 to 30 percent slopes	198	*
161D	Sevencedars-Newanna-Woodspoint complex, 5 to 30 percent slopes	905	0.1
161E	Sevencedars-Newanna-Woodspoint complex, 30 to 60 percent slopes	2,964	0.4

See footnote at end of table.

Table 4.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
161F	Newanna-Sevencedars-Rock outcrop complex, 60 to 90 percent slopes	565	*
162D	Mosscreek-Fawceter complex, 5 to 30 percent slopes	1,556	0.2
162E	Mosscreek-Fawceter complex, 30 to 60 percent slopes	6,087	0.8
163F	Fawceter-Killam-Mosscreek complex, 60 to 90 percent slopes	5,256	0.7
164F	Killam-Fawceter-Rock outcrop complex, 60 to 90 percent slopes	2,306	0.3
166F	Rock outcrop-Killam complex, 40 to 100 percent slopes	198	*
170A	Logsden silt loam, 0 to 3 percent slopes	1,146	0.2
170B	Logsden-Nehalem silt loams, 0 to 5 percent slopes	1,044	0.1
173B	Tillamook-Ginger medial silt loams, 0 to 7 percent slopes	1,102	0.2
173C	Tillamook-Ginger medial silt loams, 3 to 15 percent slopes	76	*
174C	Typic Fulvudands complex, 3 to 15 percent slopes	3,416	0.5
175D	Astoria medial silt loam, 5 to 30 percent slopes	646	*
176D	Preacher-Bohannon complex, 5 to 35 percent slopes	67	*
176E	Preacher-Bohannon complex, 35 to 60 percent slopes	2,583	0.4
177B	Dystrudepts-Aquepts complex, 0 to 7 percent slopes	286	*
178B	Fluventic Humic Dystrudepts-Dystrudepts-Aquepts complex, 0 to 5 percent slopes	1,311	0.2
180D	Salander medial silt loam, 5 to 30 percent slopes	480	*
180E	Salander-Necanicum complex, 30 to 60 percent slopes	7,523	1.0
180F	Salander-Necanicum-Neskowin complex, 60 to 90 percent slopes	3,179	0.4
181E	Neskowin-Salander medial loams, 30 to 60 percent slopes	525	*
181F	Neskowin-Rock outcrop-Necanicum complex, 60 to 100 percent slopes	310	*
182D	Neotsu-Salander medial loams, 5 to 30 percent slopes	937	0.1
183D	Winema-Fendall medial silt loams, 5 to 30 percent slopes	1,516	0.2
185F	Udorthents-Rock outcrop complex, 60 to 100 percent slopes	170	*
190D	Mulkey medial loam, 5 to 30 percent slopes	95	*
191B	Siletz-Euchre medial silt loams, 0 to 7 percent slopes	558	*
192A	Yachats very fine sandy loam, 0 to 3 percent slopes, occasional flooding	130	*
303F	Ascar-Rock outcrop complex, 60 to 90 percent slopes	171	*
307F	Braun-Scaponia silt loams, 60 to 90 percent slopes	20	*
309D	Caterl-Laderly complex, 3 to 30 percent slopes	95	*
309E	Caterl-Laderly complex, 30 to 60 percent slopes	1,620	0.2
314A	Croquib medial silt loam, 0 to 3 percent slopes	59	*
322F	Harslow-Kilchis very gravelly medial loams, 60 to 90 percent slopes	818	0.1
327	Dystrudepts, steep, 25 to 60 percent slopes	2	*
328	Dystrudepts-Humaquepts complex, 0 to 20 percent slopes	88	*
329F	Kilchis-Rock outcrop complex, 60 to 90 percent slopes	190	*
338F	Laderly-Rock outcrop complex, 60 to 90 percent slopes	187	*
342D	McMille medial silt loam, 3 to 30 percent slopes	19	*
345A	Mues medial silt loam, 0 to 3 percent slopes	33	*
346D	Murtip medial loam, 3 to 30 percent slopes	131	*
347E	Murtip-Caterl complex, 30 to 60 percent slopes	112	*
350E	Necanicum-Ascar complex, 30 to 60 percent slopes	273	*
356D	Rinearson silt loam, 3 to 30 percent slopes	206	*
357E	Scaponia-Braun silt loams, 30 to 60 percent slopes	393	*
358D	Skipanon gravelly medial silt loam, 3 to 30 percent slopes	781	0.1
358E	Skipanon gravelly medial silt loam, 30 to 60 percent slopes	532	*
359D	Svensen medial loam, 3 to 30 percent slopes	134	*
359E	Svensen medial loam, 30 to 60 percent slopes	371	*
363D	Tolke medial silt loam, 5 to 30 percent slopes	2,006	0.3
371C	Walluski silt loam, 7 to 15 percent slopes	12	*
403E	Astoria medial silt loam, 30 to 60 percent slopes	18	*
420E	Hembre medial silt loam, 30 to 60 percent slopes	2	*
420F	Hembre medial silt loam, 60 to 90 percent slopes	2	*
425E	Klickitat stony loam, 30 to 60 percent slopes	3	*
433D	Melby silt loam, 5 to 30 percent slopes	111	*
433E	Melby silt loam, 30 to 60 percent slopes	214	*
439E	Tolke medial silt loam, 30 to 60 percent slopes	124	*
501D	Apt-McDuff complex, 5 to 30 percent slopes	706	*
501E	Apt-McDuff complex, 30 to 50 percent slopes	719	*
517A	Euchre medial silt loam, 0 to 3 percent slopes	23	*
519D	Fendall-Winema medial silt loams, 15 to 35 percent slopes	50	*

See footnote at end of table.

Table 4.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
532D	Klootchie-Neotsu medial silt loams, 3 to 30 percent slopes	132	*
532E	Klootchie-Neotsu medial silt loams, 30 to 60 percent slopes	162	*
543F	Neotsu-Necanicum complex, 60 to 90 percent slopes	52	*
552F	Reedsport-Tolovana complex, 60 to 85 percent slopes	73	*
555D	Templeton-Fendall medial silt loams, 5 to 35 percent slopes	241	*
556D	Tolovana-Reedsport complex, 3 to 35 percent slopes	886	0.1
556E	Tolovana-Reedsport complex, 35 to 60 percent slopes	3,802	0.5
611B	Dystrudepts-Aquepts-Humaquepts complex, warm, 0 to 7 percent slopes	903	0.1
W	Water	15,616	2.2
	Total	720,147	100.0

* Less than 0.1 percent.

Table 5.--Irrigated and Nonirrigated Yields by Map Unit Component

(Yields in the "N" columns are for nonirrigated areas; those in the "I" columns are for irrigated areas. Yields are those that can be expected under a high level of management. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil.)

Map symbol and soil name	Land capability		Grass silage		Pasture	
	N	I	N	I	N	I
			Tons	*Tons*	*AUM*	*AUM*
1A:						
Brenner	4w	---	5.00	---	9.00	---
2A:						
Fluvaquents	5w	---	---	---	---	---
Histosols	5w	---	---	---	---	---
3A:						
Coquille	5w	---	---	---	---	---
4D:						
Ginsberg	6e	---	---	---	---	---
4E:						
Ginsberg	6e	---	---	---	---	---
Klistan	6e	---	---	---	---	---
5E:						
Ferrelo	6e	---	---	---	---	---
6D:						
Horseprairie	3e	---	---	---	---	---
Ferrelo	3e	---	---	---	---	---
7:						
Dune land	8	---	---	---	---	---
8A:						
Depoe	6w	---	---	---	---	---
9B:						
Waldport	6e	---	---	---	---	---
9C:						
Waldport	6e	---	---	---	---	---
9D:						
Waldport	6e	---	---	---	---	---
9E:						
Waldport	6e	---	---	---	---	---
10B:						
Waldport, thin surface	6e	---	---	---	---	---
10C:						
Waldport, thin surface	6e	---	---	---	---	---
10E:						
Waldport, thin surface	6e	---	---	---	---	---

Table 5.--Irrigated and Nonirrigated Yields by Map Unit Component--Continued

Map symbol and soil name	Land capability		Grass silage		Pasture	
	N	I	N	I	N	I
			Tons	*Tons*	*AUM*	*AUM*
11B:						
Netarts	4e	---	---	---	---	---
11C:						
Netarts	4e	---	---	---	---	---
11D:						
Netarts	4e	---	---	---	---	---
11E:						
Netarts	6e	---	---	---	---	---
12B:						
Yaquina	4w	---	---	---	---	---
13B:						
Waldport, thin surface	6e	---	---	---	---	---
Heceta	4w	---	---	---	---	---
14A:						
Heceta	4w	---	---	---	---	---
15B:						
Netarts	4e	---	---	---	---	---
Yaquina	4w	---	---	---	---	---
16F:						
Caterl	7e	---	---	---	---	---
Laderly	7e	---	---	---	---	---
Murtip	7e	---	---	---	---	---
17B:						
Chitwood	3e	---	5.00	---	9.00	---
Hebo	4w	---	4.00	---	7.00	---
18B:						
Chitwood	3e	---	5.00	---	9.00	---
18C:						
Chitwood	3e	---	5.00	---	9.00	---
19E:						
Klootchie	6e	---	---	---	---	---
20D:						
Klootchie	6e	---	---	---	---	---
Necanicum	6e	---	---	---	---	---
20E:						
Klootchie	6e	---	---	---	---	---
Necanicum	6e	---	---	---	---	---

Table 5.--Irrigated and Nonirrigated Yields by Map Unit Component--Continued

Map symbol and soil name	Land capability		Grass silage		Pasture	
	N	I	N	I	N	I
			Tons	*Tons*	*AUM*	*AUM*
21F:						
Necanicum	7e	---	---	---	---	---
Ascar	7s	---	---	---	---	---
Klootchie	7e	---	---	---	---	---
22F:						
Ascar	7s	---	---	---	---	---
Necanicum	7e	---	---	---	---	---
Rock outcrop	8	---	---	---	---	---
23F:						
Rock outcrop	8	---	---	---	---	---
Ascar	7s	---	---	---	---	---
24C:						
Lebam	4e	---	---	---	---	---
24D:						
Lebam	6e	---	---	---	---	---
25E:						
Lebam	6e	---	---	---	---	---
Necanicum	6e	---	---	---	---	---
26F:						
Lebam	7e	---	---	---	---	---
Necanicum	7e	---	---	---	---	---
28D:						
Templeton	6e	---	---	---	---	---
Necanicum	6e	---	---	---	---	---
29D:						
Templeton	6e	---	---	---	---	---
Klootchie	6e	---	---	---	---	---
29E:						
Templeton	6e	---	---	---	---	---
Klootchie	6e	---	---	---	---	---
30D:						
Templeton	6e	---	---	---	---	---
30E:						
Templeton	6e	---	---	---	---	---
Ecola	6e	---	---	---	---	---

Table 5.--Irrigated and Nonirrigated Yields by Map Unit Component--Continued

Map symbol and soil name	Land capability		Grass silage		Pasture	
	N	I	N	I	N	I
			Tons	*Tons*	*AUM*	*AUM*
30F:						
Templeton	7e	---	---	---	---	---
Ecola	7e	---	---	---	---	---
31D:						
Tolovana	6e	---	---	---	---	---
Templeton	6e	---	---	---	---	---
31E:						
Tolovana	6e	---	---	---	---	---
Templeton	6e	---	---	---	---	---
32D:						
Munsoncreek	6e	---	---	---	---	---
Flowerpot	6e	---	---	---	---	---
32E:						
Munsoncreek	6e	---	---	---	---	---
Templeton	6e	---	---	---	---	---
33D:						
Tolovana	6e	---	---	---	---	---
37D:						
Templeton	6e	---	---	---	---	---
Skipanon	6e	---	---	---	---	---
37E:						
Templeton	6e	---	---	---	---	---
Skipanon	6e	---	---	---	---	---
38E:						
Templeton	6e	---	---	---	---	---
Necanicum	6e	---	---	---	---	---
43F:						
Klistan	7e	---	---	---	---	---
Harslow	7s	---	---	---	---	---
Hemcross	7e	---	---	---	---	---
44E:						
Klistan	6e	---	---	---	---	---
Harslow	6s	---	---	---	---	---
Rock outcrop	8	---	---	---	---	---
44F:						
Harslow	7s	---	---	---	---	---
Klistan	7e	---	---	---	---	---

Table 5.--Irrigated and Nonirrigated Yields by Map Unit Component--Continued

Map symbol and soil name	Land capability N	Land capability I	Grass silage N	Grass silage I	Pasture N	Pasture I
			Tons	*Tons*	*AUM*	*AUM*
44F:						
Rock outcrop	8	---	---	---	---	---
45B:						
Hebo	4w	---	4.00	---	7.00	---
48D:						
Hemcross	6e	---	---	---	---	---
Klistan	6e	---	---	---	---	---
48E:						
Hemcross	6e	---	---	---	---	---
Klistan	6e	---	---	---	---	---
50B:						
Walluski	2e	3e	5.50	7.50	10.00	14.00
51B:						
Walluski	2e	3e	5.50	7.50	10.00	14.00
Chitwood	3e	---	5.00	---	9.00	---
51C:						
Walluski	3e	4e	---	---	9.00	13.00
Chitwood	3e	---	5.00	---	9.00	---
54B:						
Knappa	2e	3e	6.00	8.00	11.00	15.00
55A:						
Histosols	5w	---	---	---	---	---
Water	---	---	---	---	---	---
56B:						
Wolfer	3s	3e	4.00	6.00	7.00	11.00
56C:						
Wolfer	3s	4e	4.00	6.00	7.00	11.00
57B:						
Condorbridge	2e	---	4.00	---	7.00	---
57C:						
Condorbridge	3e	---	4.00	---	7.00	---
58C:						
Knappa	3e	4e	---	---	9.00	13.00
59B:						
Chitwood	3e	---	5.00	---	9.00	---
Knappa	2e	3e	6.00	8.00	11.00	15.00
60E:						
Caterl	6e	---	---	---	---	---
Laderly	6e	---	---	---	---	---

Table 5.--Irrigated and Nonirrigated Yields by Map Unit Component--Continued

Map symbol and soil name	Land capability		Grass silage		Pasture	
	N	I	N	I	N	I
			Tons	*Tons*	*AUM*	*AUM*
60E:						
Rock outcrop	8	---	---	---	---	---
60F:						
Laderly	7e	---	---	---	---	---
Caterl	7e	---	---	---	---	---
Rock outcrop	8	---	---	---	---	---
61F:						
Laderly, south slopes	7e	---	---	---	---	---
Rock outcrop, south slopes	8	---	---	---	---	---
Caterl, south slopes	7e	---	---	---	---	---
62F:						
Rock outcrop	8	---	---	---	---	---
Laderly	7e	---	---	---	---	---
70D:						
Murtip	6e	---	---	---	---	---
Caterl	6e	---	---	---	---	---
Laderly	6e	---	---	---	---	---
70E:						
Murtip	6e	---	---	---	---	---
Caterl	6e	---	---	---	---	---
Laderly	6e	---	---	---	---	---
71D:						
McMille	6e	---	---	---	---	---
Mutt	6e	---	---	---	---	---
72D:						
Caterl, clayey	6e	---	---	---	---	---
Murtip, clayey	6e	---	---	---	---	---
73A:						
Nehalem, frequent flooding	3w	3w	6.00	8.00	11.00	15.00
74A:						
Nehalem, occasional flooding	2w	2w	6.00	8.00	11.00	15.00
76A:						
Nestucca	3w	3w	5.00	7.00	9.00	13.00
77A:						
Nestucca	3w	3w	5.00	7.00	9.00	13.00
Brenner	4w	---	5.00	---	9.00	---

Table 5.--Irrigated and Nonirrigated Yields by Map Unit Component--Continued

Map symbol and soil name	Land capability		Grass silage		Pasture	
	N	I	N	I	N	I
			Tons	*Tons*	*AUM*	*AUM*
80B:						
Quillamook	2e	3e	6.00	8.00	11.00	15.00
81B:						
Quillamook, gravelly substratum	2e	3e	6.00	8.00	11.00	15.00
Quillamook	2e	3e	6.00	8.00	11.00	15.00
81C:						
Quillamook, gravelly substratum	3e	4e	---	---	9.00	13.00
Quillamook	3e	4e	---	---	9.00	13.00
89A:						
Udifluvents	4w	---	---	---	---	---
Riverwash	8	---	---	---	---	---
Water	---	---	---	---	---	---
90A:						
Yachats	3w	3w	5.00	7.00	9.00	13.00
91A:						
Gauldy	4w	---	3.00	---	5.00	---
92A:						
Yachats	3w	3w	5.00	7.00	9.00	13.00
Gauldy	4w	---	3.00	---	5.00	---
93B:						
Gauldy, occasional flooding	4w	---	3.00	---	5.00	---
Gauldy, rare flooding	4s	---	3.00	---	5.00	---
94B:						
Ginger	3e	4e	5.00	7.00	9.00	13.00
Quillamook	2e	3e	6.00	8.00	11.00	15.00
Urban land	8	---	---	---	---	---
95B:						
Urban land	8	---	---	---	---	---
Quillamook	2e	3e	6.00	8.00	11.00	15.00
96B:						
Ginger	3e	4e	5.00	7.00	9.00	13.00
Hebo	4w	---	4.00	---	7.00	---
99:						
Beaches	8	---	---	---	---	---
100B:						
Urban land	8	---	---	---	---	---

Table 5.--Irrigated and Nonirrigated Yields by Map Unit Component--Continued

Map symbol and soil name	Land capability		Grass silage		Pasture	
	N	I	N	I	N	I
			Tons	*Tons*	*AUM*	*AUM*
100B:						
Udorthents	4s	---	---	---	---	---
101B:						
Urban land, flooded	8	---	---	---	---	---
Udorthents, flooded	4w	---	---	---	---	---
102A:						
Fluvaquents, diked	4w	---	3.00	---	5.00	---
Histosols, diked	4w	---	3.00	---	5.00	---
103A:						
Coquille, diked	4w	---	5.00	---	9.00	---
104A:						
Coquille, protected	4w	4w	5.50	7.50	10.00	14.00
Brenner, protected	3w	3w	5.50	7.50	10.00	14.00
Nehalem, protected	2c	2c	6.00	8.00	11.00	15.00
110F:						
Waldport, thin surface	7e	---	---	---	---	---
115A:						
Aquepts	5w	---	---	---	---	---
116A:						
Aquepts, warm	5w	---	---	---	---	---
118B:						
Oxyaquic Hapludands, flood plains	4w	---	---	---	---	---
Alic Hapludands, terraces	4s	---	---	---	---	---
119B:						
Oxyaquic Fulvudands, flood plains	4w	---	---	---	---	---
Typic Fulvudands, terraces	4e	---	---	---	---	---
120C:						
Alic Hapludands, terraces	4s	---	---	---	---	---
Alic Hapludands, fans	4e	---	---	---	---	---
121D:						
Fendall	6e	---	---	---	5.00	---
Munsoncreek	6e	---	---	---	---	---
125B:						
Siletz	2e	3e	5.50	7.50	10.00	14.00
126B:						
Siletz, warm	2e	3e	5.50	7.50	10.00	14.00

Table 5.--Irrigated and Nonirrigated Yields by Map Unit Component--Continued

Map symbol and soil name	Land capability		Grass silage		Pasture	
	N	I	N	I	N	I
			Tons	*Tons*	*AUM*	*AUM*
127C:						
Condorbridge, warm	3e	---	4.00	---	7.00	---
128B:						
Siletz	2e	3e	5.50	7.50	10.00	14.00
Wolfer	3s	3e	4.00	6.00	7.00	11.00
144F:						
Harslow, south slopes	7s	---	---	---	---	---
Rock outcrop, south slopes	8	---	---	---	---	---
Klistan, south slopes	7e	---	---	---	---	---
145F:						
Rock outcrop	8	---	---	---	---	---
Harslow	7s	---	---	---	---	---
156F:						
Sevencedars	7e	---	---	---	---	---
Newanna	7e	---	---	---	---	---
157D:						
Caterl, till substratum	6e	---	---	---	---	---
157E:						
Caterl, till substratum	6e	---	---	---	---	---
157F:						
Caterl, till substratum	7e	---	---	---	---	---
158D:						
Sevencedars, till substratum	6e	---	---	---	---	---
158E:						
Sevencedars, till substratum	6e	---	---	---	---	---
158F:						
Sevencedars, till substratum	7e	---	---	---	---	---
159D:						
Sevencedars, clayey	6e	---	---	---	---	---
161D:						
Sevencedars	6e	---	---	---	---	---
Newanna	6e	---	---	---	---	---
Woodspoint	6e	---	---	---	---	---
161E:						
Sevencedars	6e	---	---	---	---	---

Table 5.--Irrigated and Nonirrigated Yields by Map Unit Component--Continued

Map symbol and soil name	Land capability		Grass silage		Pasture	
	N	I	N	I	N	I
			Tons	*Tons*	*AUM*	*AUM*
161E:						
Newanna	6e	---	---	---	---	---
Woodspoint	6e	---	---	---	---	---
161F:						
Newanna	7e	---	---	---	---	---
Sevencedars	7e	---	---	---	---	---
Rock outcrop	8	---	---	---	---	---
162D:						
Mosscreek	6e	---	---	---	---	---
Fawceter	6e	---	---	---	---	---
162E:						
Mosscreek	6e	---	---	---	---	---
Fawceter	6e	---	---	---	---	---
163F:						
Fawceter	7e	---	---	---	---	---
Killam	7e	---	---	---	---	---
Mosscreek	7e	---	---	---	---	---
164F:						
Killam	7e	---	---	---	---	---
Fawceter	7e	---	---	---	---	---
Rock outcrop	8	---	---	---	---	---
166F:						
Rock outcrop	8	---	---	---	---	---
Killam	7e	---	---	---	---	---
170A:						
Logsden	2c	2c	6.00	8.00	11.00	15.00
170B:						
Logsden	2e	3e	6.00	8.00	11.00	15.00
Nehalem, occasional flooding	2w	2w	6.00	8.00	11.00	15.00
173B:						
Tillamook	2e	3e	5.50	7.50	10.00	14.00
Ginger	3e	4e	5.00	7.00	9.00	13.00
173C:						
Tillamook	3e	4e	5.50	7.50	10.00	14.00
Ginger	3e	4e	5.00	7.00	9.00	13.00
174C:						
Typic Fulvudands, terraces	4e	---	---	---	---	---

Table 5.--Irrigated and Nonirrigated Yields by Map Unit Component--Continued

Map symbol and soil name	Land capability		Grass silage		Pasture	
	N	I	N	I	N	I
			Tons	*Tons*	*AUM*	*AUM*
174C:						
Typic Fulvudands, fans	4e	---	---	---	---	---
175D:						
Astoria	6e	---	---	---	---	---
176D:						
Preacher	6e	---	---	---	---	---
Bohannon	6e	---	---	---	---	---
176E:						
Preacher	6e	---	---	---	---	---
Bohannon	6e	---	---	---	---	---
177B:						
Dystrudepts	2e	---	---	---	---	---
Aquepts	5w	---	---	---	---	---
178B:						
Fluventic Humic Dystrudepts	3w	---	---	---	---	---
Dystrudepts	2e	---	---	---	---	---
Aquepts	5w	---	---	---	---	---
180D:						
Salander	6e	---	---	---	---	---
180E:						
Salander	6e	---	---	---	---	---
Necanicum	6e	---	---	---	---	---
180F:						
Salander	7e	---	---	---	---	---
Necanicum	7e	---	---	---	---	---
Neskowin	7e	---	---	---	---	---
181E:						
Neskowin	6e	---	---	---	---	---
Salander	6e	---	---	---	---	---
181F:						
Neskowin	7e	---	---	---	---	---
Rock outcrop	8	---	---	---	---	---
Necanicum	7e	---	---	---	---	---
182D:						
Neotsu	6e	---	---	---	---	---
Salander	6e	---	---	---	---	---

Table 5.--Irrigated and Nonirrigated Yields by Map Unit Component--Continued

Map symbol and soil name	Land capability		Grass silage		Pasture	
	N	I	N	I	N	I
			Tons	*Tons*	*AUM*	*AUM*
183D:						
Winema	4e	---	---	---	7.00	---
Fendall	4e	---	---	---	5.00	---
185F:						
Udorthents, steep	7e	---	---	---	---	---
Rock outcrop	8	---	---	---	---	---
190D:						
Mulkey	6e	---	---	---	---	---
191B:						
Siletz	2e	3e	5.50	7.50	10.00	14.00
Euchre	3e	4e	5.00	7.00	9.00	13.00
192A:						
Yachats, occasional flooding	2w	2w	5.00	7.00	9.00	13.00
303F:						
Ascar	7s	---	---	---	---	---
Rock outcrop	8	---	---	---	---	---
307F:						
Braun	7e	---	---	---	---	---
Scaponia	7e	---	---	---	---	---
309D:						
Caterl	6e	---	---	---	---	---
Laderly	6e	---	---	---	---	---
309E:						
Caterl	6e	---	---	---	---	---
Laderly	6e	---	---	---	---	---
314A:						
Croquib	4w	---	---	---	---	---
322F:						
Harslow	7s	---	---	---	---	---
Kilchis	7s	---	---	---	---	---
327:						
Dystrudepts, steep	6e	---	---	---	---	---
328:						
Dystrudepts	3e	---	---	---	---	---
Humaquepts, isomesic	4w	---	---	---	---	---
329F:						
Kilchis	7s	---	---	---	---	---
Rock outcrop	8	---	---	---	---	---

Table 5.--Irrigated and Nonirrigated Yields by Map Unit Component--Continued

Map symbol and soil name	Land capability		Grass silage		Pasture	
	N	I	N	I	N	I
			Tons	Tons	AUM	AUM
338F:						
Laderly	7e	---	---	---	---	---
Rock outcrop	8	---	---	---	---	---
342D:						
McMille	6e	---	---	---	---	---
345A:						
Mues	2w	---	---	---	---	---
346D:						
Murtip	6e	---	---	---	---	---
347E:						
Murtip	6e	---	---	---	---	---
Caterl	6e	---	---	---	---	---
350E:						
Necanicum	6e	---	---	---	---	---
Ascar	6s	---	---	---	---	---
356D:						
Rinearson	6e	---	---	---	---	---
357E:						
Scaponia	6e	---	---	---	---	---
Braun	6e	---	---	---	---	---
358D:						
Skipanon	6e	---	---	---	---	---
358E:						
Skipanon	6e	---	---	---	---	---
359D:						
Svensen	6e	---	---	---	---	---
359E:						
Svensen	6e	---	---	---	---	---
363D:						
Tolke	6e	---	---	---	---	---
371C:						
Walluski	3e	4e	---	---	9.00	13.00
403E:						
Astoria	6e	---	---	---	---	---
420E:						
Hembre	6e	---	---	---	---	---
420F:						
Hembre	7e	---	---	---	---	---
425E:						
Klickitat	6s	---	---	---	---	---

Table 5.--Irrigated and Nonirrigated Yields by Map Unit Component--Continued

Map symbol and soil name	Land capability		Grass silage		Pasture	
	N	I	N	I	N	I
			Tons	*Tons*	*AUM*	*AUM*
433D:						
Melby	6e	---	---	---	---	---
433E:						
Melby	6e	---	---	---	---	---
439E:						
Tolke	6e	---	---	---	---	---
501D:						
Apt	6e	---	---	---	---	---
McDuff	6e	---	---	---	---	---
501E:						
Apt	6e	---	---	---	---	---
McDuff	6e	---	---	---	---	---
517A:						
Euchre	3w	3w	5.00	7.00	9.00	13.00
519D:						
Fendall	4e	---	---	---	5.00	---
Winema	4e	---	---	---	7.00	---
532D:						
Klootchie	6e	---	---	---	---	---
Neotsu	6e	---	---	---	---	---
532E:						
Klootchie	6e	---	---	---	---	---
Neotsu	6e	---	---	---	---	---
543F:						
Neotsu	7e	---	---	---	---	---
Necanicum	7e	---	---	---	---	---
552F:						
Reedsport	7e	---	---	---	---	---
Tolovana	7e	---	---	---	---	---
555D:						
Templeton	6e	---	---	---	---	---
Fendall	6e	---	---	---	---	---
556D:						
Tolovana	6e	---	---	---	---	---
Reedsport	6e	---	---	---	---	---
556E:						
Tolovana	6e	---	---	---	---	---
Reedsport	6e	---	---	---	---	---

Table 5.--Irrigated and Nonirrigated Yields by Map Unit Component--Continued

Map symbol and soil name	Land capability		Grass silage		Pasture	
	N	I	N	I	N	I
			Tons	*Tons*	*AUM*	*AUM*
611B:						
Dystrudepts, warm	2e	---	---	---	---	---
Aquepts, warm	5w	---	---	---	---	---
Humaquepts, warm	4w	---	---	---	---	---
W:						
Water	---	---	---	---	---	---

Table 6.--Statewide Important Farmland

(Only the soils considered statewide important farmland are listed. Urban or built-up areas of the soils listed are not considered important farmland.)

Map symbol	Map unit name
1A	Brenner silt loam, 0 to 1 percent slopes
6D	Horseprairie-Ferrelo complex, 3 to 20 percent slopes
11B	Netarts fine sandy loam, 0 to 5 percent slopes
11C	Netarts fine sandy loam, 3 to 12 percent slopes
11D	Netarts fine sandy loam, 5 to 30 percent slopes
12B	Yaquina loamy fine sand, 0 to 5 percent slopes
14A	Heceta fine sand, 0 to 3 percent slopes
15B	Netarts-Yaquina complex, 0 to 5 percent slopes
17B	Chitwood-Hebo complex, 0 to 5 percent slopes
18B	Chitwood medial silt loam, 0 to 7 percent slopes
18C	Chitwood medial silt loam, 7 to 15 percent slopes
24C	Lebam medial silt loam, 3 to 12 percent slopes
45B	Hebo silty clay loam, 0 to 5 percent slopes
50B	Walluski medial silt loam, 0 to 7 percent slopes
51B	Walluski-Chitwood medial silt loams, 0 to 7 percent slopes
51C	Walluski-Chitwood medial silt loams, 3 to 15 percent slopes
54B	Knappa medial silt loam, 0 to 7 percent slopes
56B	Wolfer medial silt loam, 0 to 5 percent slopes
56C	Wolfer medial silt loam, 3 to 15 percent slopes
57B	Condorbridge gravelly medial loam, 0 to 7 percent slopes
57C	Condorbridge gravelly medial loam, 3 to 15 percent slopes
58C	Knappa medial silt loam, 3 to 15 percent slopes
59B	Chitwood-Knappa medial silt loams, 0 to 7 percent slopes
73A	Nehalem silt loam, 0 to 3 percent slopes, frequently flooded
74A	Nehalem silt loam, 0 to 3 percent slopes
76A	Nestucca silt loam, 0 to 3 percent slopes
77A	Nestucca-Brenner silt loams, 0 to 3 percent slopes
80B	Quillamook medial silt loam, 0 to 7 percent slopes
81B	Quillamook complex, 0 to 7 percent slopes
81C	Quillamook complex, 3 to 15 percent slopes
90A	Yachats very fine sandy loam, 0 to 3 percent slopes
91A	Gauldy loam, 0 to 3 percent slopes
92A	Yachats-Gauldy complex, 0 to 3 percent slopes
93B	Gauldy complex, 0 to 5 percent slopes
96B	Ginger-Hebo complex, 0 to 5 percent slopes
102A	Fluvaquents-Histosols complex, 0 to 1 percent slopes, diked
103A	Coquille silt loam, 0 to 1 percent slopes, diked
104A	Coquille-Brenner-Nehalem association, 0 to 3 percent slopes, protected
118B	Oxyaquic Hapludands-Alic Hapludands complex, 0 to 7 percent slopes
119B	Oxyaquic Fulvudands-Typic Fulvudands complex, 0 to 7 percent slopes
120C	Alic Hapludands complex, 3 to 15 percent slopes
125B	Siletz medial silt loam, 0 to 7 percent slopes
126B	Siletz medial silt loam, warm, 0 to 7 percent slopes
127C	Condorbridge gravelly medial loam, warm, 3 to 15 percent slopes
128B	Siletz-Wolfer medial silt loams, 0 to 7 percent slopes
170A	Logsden silt loam, 0 to 3 percent slopes
170B	Logsden-Nehalem silt loams, 0 to 5 percent slopes
173B	Tillamook-Ginger medial silt loams, 0 to 7 percent slopes
173C	Tillamook-Ginger medial silt loams, 3 to 15 percent slopes
174C	Typic Fulvudands complex, 3 to 15 percent slopes
183D	Winema-Fendall medial silt loams, 5 to 30 percent slopes
191B	Siletz-Euchre medial silt loams, 0 to 7 percent slopes
192A	Yachats very fine sandy loam, 0 to 3 percent slopes, occasional flooding
314A	Croquib medial silt loam, 0 to 3 percent slopes
328	Dystrudepts-Humaquepts complex, 0 to 20 percent slopes
345A	Mues medial silt loam, 0 to 3 percent slopes
371C	Walluski silt loam, 7 to 15 percent slopes
517A	Euchre medial silt loam, 0 to 3 percent slopes
519D	Fendall-Winema medial silt loams, 15 to 35 percent slopes

Table 7.--Forestland Productivity

(Only the soils that support trees are listed. Absence of an entry indicates that data were not available.)

Map symbol and soil name	Potential productivity						
	Common trees	Site index average	Site index standard deviation*	NRCS ADP number	Site index base age	Volume of wood fiber (CMAI)	CMAI age
			Ft		*Yrs*	*Cu ft/ac/yr*	*Yrs*
4D:							
Ginsberg	Douglas-fir	121	5.7	795	50	176	90
	Douglas-fir	160	8.5	790	100	170	60
	Western hemlock	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Bigleaf maple	---	---	---	---	---	---
4E:							
Ginsberg	Douglas-fir	121	5.7	795	50	176	90
	Douglas-fir	160	8.5	790	100	170	60
	Western hemlock	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Bigleaf maple	---	---	---	---	---	---
Klistan	Douglas-fir	125	---	795	50	184	---
	Douglas-fir	164	---	790	100	174	---
	Western hemlock	---	---	---	---	---	---
	Bigleaf maple	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
5E:							
Ferrelo	Douglas-fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Shore pine	---	---	---	---	---	---
	Sitka spruce	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
6D:							
Horseprairie	Douglas-fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Sitka spruce	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
Ferrelo	Douglas-fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Shore pine	---	---	---	---	---	---
	Sitka spruce	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
8A:							
Depoe	Shore pine	---	---	---	---	---	---
	Sitka spruce	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
16F:							
Caterl	Douglas-fir	112	4.2	795	50	158	90
	Douglas-fir	144	7.6	790	100	150	60
	Western hemlock	106	4.7	995	50	243	90
	Western hemlock	153	10.0	990	100	243	50
	Noble fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Common trees	Site index average	Site index standard deviation*	NRCS ADP number	Site index base age	Volume of wood fiber (CMAI)	CMAI age
			Ft		*Yrs*	*Cu ft/ac/yr*	*Yrs*
16F:							
Laderly	Douglas-fir	113	6.3	795	50	160	90
	Douglas-fir	149	9.8	790	100	157	60
	Western hemlock	---	---	---	---	---	---
	Noble fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
Murtip	Douglas-fir	117	3.3	795	50	169	90
	Douglas-fir	153	7.4	790	100	162	60
	Western hemlock	112	1.6	995	50	254	90
	Western hemlock	158	18.1	990	100	251	50
	Noble fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
19E:							
Klootchie	Western hemlock	115	5.8	995	50	260	90
	Western hemlock	163	8.3	990	100	260	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	120	8.2	795	50	175	90
	Douglas-fir	159	8.7	790	100	169	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
20D:							
Klootchie	Western hemlock	115	5.8	995	50	260	90
	Western hemlock	163	8.3	990	100	260	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	120	8.2	795	50	175	90
	Douglas-fir	159	8.7	790	100	169	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
Necanicum	Western hemlock	104	7.0	995	50	239	90
	Western hemlock	149	6.6	990	100	236	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	111	9.9	795	50	156	90
	Douglas-fir	155	17.7	790	100	164	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
20E:							
Klootchie	Western hemlock	115	5.8	995	50	260	90
	Western hemlock	163	8.3	990	100	260	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	120	8.2	795	50	175	90
	Douglas-fir	159	8.7	790	100	169	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
Necanicum	Western hemlock	104	7.0	995	50	239	90
	Western hemlock	149	6.6	990	100	236	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	111	9.9	795	50	156	90
	Douglas-fir	155	17.7	790	100	164	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Common trees	Site index average	Site index standard deviation*	NRCS ADP number	Site index base age	Volume of wood fiber (CMAI)	CMAI age
			Ft		Yrs	Cu ft/ac/yr	Yrs
21F:							
Necanicum	Western hemlock	104	7.0	995	50	239	90
	Western hemlock	149	6.6	990	100	236	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	111	9.9	795	50	156	90
	Douglas-fir	155	17.7	790	100	164	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
Ascar	Western hemlock	105	1.4	995	50	241	90
	Western hemlock	148	3.5	990	100	234	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	111	12.9	795	50	156	90
	Douglas-fir	146	12.5	790	100	153	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
Klootchie	Western hemlock	115	5.8	995	50	260	90
	Western hemlock	163	8.3	990	100	260	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	120	8.2	795	50	175	90
	Douglas-fir	159	8.7	790	100	169	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
22F:							
Ascar	Western hemlock	105	1.4	995	50	241	90
	Western hemlock	148	3.5	990	100	234	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	111	12.9	795	50	156	90
	Douglas-fir	146	12.5	790	100	153	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
Necanicum	Western hemlock	104	7.0	995	50	239	90
	Western hemlock	149	6.6	990	100	236	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	111	9.9	795	50	156	90
	Douglas-fir	155	17.7	790	100	164	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
Rock outcrop	---	---	---	---	---	---	---
23F:							
Rock outcrop	---	---	---	---	---	---	---
Ascar	Western hemlock	105	1.4	995	50	241	90
	Western hemlock	148	3.5	990	100	234	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	111	12.9	795	50	156	90
	Douglas-fir	146	12.5	790	100	153	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index average	Site index standard deviation*	NRCS ADP number	Site index base age	Volume of wood fiber (CMAI)	CMAI age
			Ft		Yrs	Cu ft/ac/yr	Yrs
24C:							
Lebam	Western hemlock	126	4.5	995	50	283	90
	Western hemlock	179	7.7	990	100	290	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	121	5.9	795	50	176	90
	Douglas-fir	163	8.7	790	100	173	60
	Red alder	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
24D:							
Lebam	Western hemlock	126	4.5	995	50	283	90
	Western hemlock	179	7.7	990	100	290	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	121	5.9	795	50	176	90
	Douglas-fir	163	8.7	790	100	173	60
	Red alder	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
25E:							
Lebam	Western hemlock	126	4.5	995	50	283	90
	Western hemlock	179	7.7	990	100	290	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	121	5.9	795	50	176	90
	Douglas-fir	163	8.7	790	100	173	60
	Red alder	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
Necanicum	Western hemlock	104	7.0	995	50	239	90
	Western hemlock	149	6.6	990	100	236	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	111	9.9	795	50	156	90
	Douglas-fir	155	17.7	790	100	164	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
26F:							
Lebam	Western hemlock	126	4.5	995	50	283	90
	Western hemlock	179	7.7	990	100	290	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	121	5.9	795	50	176	90
	Douglas-fir	163	8.7	790	100	173	60
	Red alder	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
Necanicum	Western hemlock	104	7.0	995	50	239	90
	Western hemlock	149	6.6	990	100	236	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	111	9.9	795	50	156	90
	Douglas-fir	155	17.7	790	100	164	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Common trees	Site index average	Site index standard deviation*	NRCS ADP number	Site index base age	Volume of wood fiber (CMAI)	CMAI age
			Ft		Yrs	Cu ft/ac/yr	Yrs
28D:							
Templeton	Western hemlock	116	4.1	995	50	262	90
	Western hemlock	167	7.7	990	100	268	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	125	1.4	795	50	184	90
	Douglas-fir	152	10.1	790	100	161	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
Necanicum	Western hemlock	104	7.0	995	50	239	90
	Western hemlock	149	6.6	990	100	236	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	111	9.9	795	50	156	90
	Douglas-fir	155	17.7	790	100	164	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
29D:							
Templeton	Western hemlock	116	4.1	995	50	262	90
	Western hemlock	167	7.7	990	100	268	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	125	1.4	795	50	184	90
	Douglas-fir	152	10.1	790	100	161	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
Klootchie	Western hemlock	115	5.8	995	50	260	90
	Western hemlock	163	8.3	990	100	260	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	120	8.2	795	50	175	90
	Douglas-fir	159	8.7	790	100	169	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
29E:							
Templeton	Western hemlock	116	4.1	995	50	262	90
	Western hemlock	167	7.7	990	100	268	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	125	1.4	795	50	184	90
	Douglas-fir	152	10.1	790	100	161	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
Klootchie	Western hemlock	115	5.8	995	50	260	90
	Western hemlock	163	8.3	990	100	260	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	120	8.2	795	50	175	90
	Douglas-fir	159	8.7	790	100	169	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
30D:							
Templeton	Western hemlock	116	4.1	995	50	262	90
	Western hemlock	167	7.7	990	100	268	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	125	1.4	795	50	184	90
	Douglas-fir	152	10.1	790	100	161	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Common trees	Site index average	Site index standard deviation*	NRCS ADP number	Site index base age	Volume of wood fiber (CMAI)	CMAI age
			Ft		Yrs	Cu ft/ac/yr	Yrs
30E:							
Templeton	Western hemlock	116	4.1	995	50	262	90
	Western hemlock	167	7.7	990	100	268	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	125	1.4	795	50	184	90
	Douglas-fir	152	10.1	790	100	161	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
Ecola	Douglas-fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Sitka spruce	---	---	---	---	---	---
	Western hemlock	108	2.6	995	50	248	90
	Western hemlock	156	9.3	990	100	248	50
	Western redcedar	---	---	---	---	---	---
30F:							
Templeton	Western hemlock	116	4.1	995	50	262	90
	Western hemlock	167	7.7	990	100	268	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	125	1.4	795	50	184	90
	Douglas-fir	152	10.1	790	100	161	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
Ecola	Douglas-fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Sitka spruce	---	---	---	---	---	---
	Western hemlock	108	2.6	995	50	248	90
	Western hemlock	156	9.3	990	100	248	50
	Western redcedar	---	---	---	---	---	---
31D:							
Tolovana	Western hemlock	122	5.9	995	50	275	90
	Western hemlock	172	8.6	990	100	278	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	124	6.8	795	50	182	90
	Douglas-fir	170	9.0	790	100	181	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
Templeton	Western hemlock	116	4.1	995	50	262	90
	Western hemlock	167	7.7	990	100	268	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	125	1.4	795	50	184	90
	Douglas-fir	152	10.1	790	100	161	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
31E:							
Tolovana	Western hemlock	122	5.9	995	50	275	90
	Western hemlock	172	8.6	990	100	278	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	124	6.8	795	50	182	90
	Douglas-fir	170	9.0	790	100	181	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Common trees	Site index average	Site index standard deviation*	NRCS ADP number	Site index base age	Volume of wood fiber (CMAI)	CMAI age
			Ft		Yrs	Cu ft/ac/yr	Yrs
31E:							
Templeton	Western hemlock	116	4.1	995	50	262	90
	Western hemlock	167	7.7	990	100	268	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	125	1.4	795	50	184	90
	Douglas-fir	152	10.1	790	100	161	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
32D:							
Munsoncreek	Western hemlock	126	7.5	995	50	283	90
	Western hemlock	179	13.1	990	100	290	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
Flowerpot	Douglas-fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Sitka spruce	---	---	---	---	248	---
	Western hemlock	---	---	---	---	290	---
	Western redcedar	---	---	---	---	---	---
32E:							
Munsoncreek	Western hemlock	126	7.5	995	50	283	90
	Western hemlock	179	13.1	990	100	290	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
Templeton	Western hemlock	116	4.1	995	50	262	90
	Western hemlock	167	7.7	990	100	268	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	125	1.4	795	50	184	90
	Douglas-fir	152	10.1	790	100	161	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
33D:							
Tolovana	Western hemlock	122	5.9	995	50	275	90
	Western hemlock	172	8.6	990	100	278	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	124	6.8	795	50	182	90
	Douglas-fir	170	9.0	790	100	181	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
37D:							
Templeton	Western hemlock	116	4.1	995	50	262	90
	Western hemlock	167	7.7	990	100	268	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	125	1.4	795	50	184	90
	Douglas-fir	152	10.1	790	100	161	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Common trees	Site index average	Site index standard deviation*	NRCS ADP number	Site index base age	Volume of wood fiber (CMAI)	CMAI age
			Ft		Yrs	Cu ft/ac/yr	Yrs
37D:							
Skipanon	Western hemlock	112	1.7	995	50	254	90
	Western hemlock	159	2.1	990	100	252	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	127	2.1	795	50	188	90
	Douglas-fir	167	10.6	790	100	178	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
37E:							
Templeton	Western hemlock	116	4.1	995	50	262	90
	Western hemlock	167	7.7	990	100	268	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	125	1.4	795	50	184	90
	Douglas-fir	152	10.1	790	100	161	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
Skipanon	Western hemlock	112	1.7	995	50	254	90
	Western hemlock	159	2.1	990	100	252	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	127	2.1	795	50	188	90
	Douglas-fir	167	10.6	790	100	178	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
38E:							
Templeton	Western hemlock	116	4.1	995	50	262	90
	Western hemlock	167	7.7	990	100	268	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	125	1.4	795	50	184	90
	Douglas-fir	152	10.1	790	100	161	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
Necanicum	Western hemlock	104	7.0	995	50	239	90
	Western hemlock	149	6.6	990	100	236	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	111	9.9	795	50	156	90
	Douglas-fir	155	17.7	790	100	164	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
43F:							
Klistan	Douglas-fir	125	---	795	50	184	---
	Douglas-fir	164	---	790	100	174	---
	Western hemlock	---	---	---	---	---	---
	Bigleaf maple	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
Harslow	Douglas-fir	115	7.6	795	50	163	90
	Douglas-fir	156	4.0	790	100	165	60
	Western hemlock	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Bigleaf maple	---	---	---	---	---	---

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Common trees	Site index average	Site index standard deviation*	NRCS ADP number	Site index base age	Volume of wood fiber (CMAI)	CMAI age
			Ft		Yrs	Cu ft/ac/yr	Yrs
43F:							
Hemcross----------------	Douglas-fir---------	127	5.6	795	50	188	90
	Douglas-fir---------	168	7.6	790	100	179	60
	Western hemlock-----	---	---	---	---	---	---
	Red alder-----------	---	---	---	---	---	---
	Bigleaf maple-------	---	---	---	---	---	---
44E:							
Klistan-----------------	Douglas-fir---------	125	---	795	50	184	---
	Douglas-fir---------	164	---	790	100	174	---
	Western hemlock-----	---	---	---	---	---	---
	Bigleaf maple-------	---	---	---	---	---	---
	Red alder-----------	---	---	---	---	---	---
Harslow-----------------	Douglas-fir---------	115	7.6	795	50	163	90
	Douglas-fir---------	156	4.0	790	100	165	60
	Western hemlock-----	---	---	---	---	---	---
	Red alder-----------	---	---	---	---	---	---
	Bigleaf maple-------	---	---	---	---	---	---
Rock outcrop------------	---	---	---	---	---	---	---
44F:							
Harslow-----------------	Douglas-fir---------	115	7.6	795	50	163	90
	Douglas-fir---------	156	4.0	790	100	165	60
	Western hemlock-----	---	---	---	---	---	---
	Red alder-----------	---	---	---	---	---	---
	Bigleaf maple-------	---	---	---	---	---	---
Klistan-----------------	Douglas-fir---------	125	---	795	50	184	---
	Douglas-fir---------	164	---	790	100	174	---
	Western hemlock-----	---	---	---	---	---	---
	Bigleaf maple-------	---	---	---	---	---	---
	Red alder-----------	---	---	---	---	---	---
Rock outcrop------------	---	---	---	---	---	---	---
48D:							
Hemcross----------------	Douglas-fir---------	127	5.6	795	50	188	90
	Douglas-fir---------	168	7.6	790	100	179	60
	Western hemlock-----	---	---	---	---	---	---
	Red alder-----------	---	---	---	---	---	---
	Bigleaf maple-------	---	---	---	---	---	---
Klistan-----------------	Douglas-fir---------	125	---	795	50	184	---
	Douglas-fir---------	164	---	790	100	174	---
	Western hemlock-----	---	---	---	---	---	---
	Bigleaf maple-------	---	---	---	---	---	---
	Red alder-----------	---	---	---	---	---	---
48E:							
Hemcross----------------	Douglas-fir---------	127	5.6	795	50	188	90
	Douglas-fir---------	168	7.6	790	100	179	60
	Western hemlock-----	---	---	---	---	---	---
	Red alder-----------	---	---	---	---	---	---
	Bigleaf maple-------	---	---	---	---	---	---

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Common trees	Site index average	Site index standard deviation*	NRCS ADP number	Site index base age	Volume of wood fiber (CMAI)	CMAI age
			Ft		Yrs	Cu ft/ac/yr	Yrs
48E:							
Klistan	Douglas-fir	125	---	795	50	184	---
	Douglas-fir	164	---	790	100	174	---
	Western hemlock	---	---	---	---	---	---
	Bigleaf maple	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
50B:							
Walluski	Douglas-fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Sitka spruce	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
51B:							
Walluski	Douglas-fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Sitka spruce	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
Chitwood	---	---	---	---	---	---	---
51C:							
Walluski	Douglas-fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Sitka spruce	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
Chitwood	---	---	---	---	---	---	---
54B:							
Knappa	Western hemlock	117	4.5	995	50	264	90
	Western hemlock	168	4.2	990	100	270	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
57B:							
Condorbridge	Douglas-fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Sitka spruce	---	---	---	---	248	---
	Western hemlock	---	---	---	---	290	---
57C:							
Condorbridge	Douglas-fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Sitka spruce	---	---	---	---	248	---
	Western hemlock	---	---	---	---	290	---
58C:							
Knappa	Western hemlock	117	4.5	995	50	264	90
	Western hemlock	168	4.2	990	100	270	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index average	Site index standard deviation*	NRCS ADP number	Site index base age	Volume of wood fiber (CMAI)	CMAI age
			Ft		Yrs	Cu ft/ac/yr	Yrs
59B:							
Chitwood	---	---	---	---	---	---	---
Knappa	Western hemlock	117	4.5	995	50	264	90
	Western hemlock	168	4.2	990	100	270	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
60E:							
Caterl	Douglas-fir	112	4.2	795	50	158	90
	Douglas-fir	144	7.6	790	100	150	60
	Western hemlock	106	4.7	995	50	243	90
	Western hemlock	153	10.0	990	100	243	50
	Noble fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
Laderly	Douglas-fir	113	6.3	795	50	160	90
	Douglas-fir	149	9.8	790	100	157	60
	Western hemlock	---	---	---	---	---	---
	Noble fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
Rock outcrop	---	---	---	---	---	---	---
60F:							
Laderly	Douglas-fir	113	6.3	795	50	160	90
	Douglas-fir	149	9.8	790	100	157	60
	Western hemlock	---	---	---	---	---	---
	Noble fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
Caterl	Douglas-fir	112	4.2	795	50	158	90
	Douglas-fir	144	7.6	790	100	150	60
	Western hemlock	106	4.7	995	50	243	90
	Western hemlock	153	10.0	990	100	243	50
	Noble fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
Rock outcrop	---	---	---	---	---	---	---
61F:							
Laderly, south slopes	Douglas-fir	113	6.3	795	50	160	90
	Douglas-fir	149	9.8	790	100	157	60
	Western hemlock	---	---	---	---	---	---
	Noble fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
Rock outcrop, south slopes	---	---	---	---	---	---	---
Caterl, south slopes	Douglas-fir	112	4.2	795	50	158	90
	Douglas-fir	144	7.6	790	100	150	60
	Western hemlock	106	4.7	995	50	243	90
	Western hemlock	153	10.0	990	100	243	50
	Noble fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Common trees	Site index average	Site index standard deviation*	NRCS ADP number	Site index base age	Volume of wood fiber (CMAI)	CMAI age
			Ft		Yrs	Cu ft/ac/yr	Yrs
62F:							
Rock outcrop	---	---	---	---	---	---	---
Laderly	Douglas-fir	113	6.3	795	50	160	90
	Douglas-fir	149	9.8	790	100	157	60
	Western hemlock	---	---	---	---	---	---
	Noble fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
70D:							
Murtip	Douglas-fir	117	3.3	795	50	169	90
	Douglas-fir	153	7.4	790	100	162	60
	Western hemlock	112	1.6	995	50	254	90
	Western hemlock	158	18.1	990	100	251	50
	Noble fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
Caterl	Douglas-fir	112	4.2	795	50	158	90
	Douglas-fir	144	7.6	790	100	150	60
	Western hemlock	106	4.7	995	50	243	90
	Western hemlock	153	10.0	990	100	243	50
	Noble fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
Laderly	Douglas-fir	113	6.3	795	50	160	90
	Douglas-fir	149	9.8	790	100	157	60
	Western hemlock	---	---	---	---	---	---
	Noble fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
70E:							
Murtip	Douglas-fir	117	3.3	795	50	169	90
	Douglas-fir	153	7.4	790	100	162	60
	Western hemlock	112	1.6	995	50	254	90
	Western hemlock	158	18.1	990	100	251	50
	Noble fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
Caterl	Douglas-fir	112	4.2	795	50	158	90
	Douglas-fir	144	7.6	790	100	150	60
	Western hemlock	106	4.7	995	50	243	90
	Western hemlock	153	10.0	990	100	243	50
	Noble fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
Laderly	Douglas-fir	113	6.3	795	50	160	90
	Douglas-fir	149	9.8	790	100	157	60
	Western hemlock	---	---	---	---	---	---
	Noble fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
71D:							
McMille	Douglas-fir	---	---	---	---	---	---
	Noble fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Common trees	Site index average	Site index standard deviation*	NRCS ADP number	Site index base age	Volume of wood fiber (CMAI)	CMAI age
			Ft		Yrs	Cu ft/ac/yr	Yrs
71D:							
Mutt	Douglas-fir	---	---	---	---	---	---
	Noble fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
72D:							
Caterl, clayey	Douglas-fir	112	4.2	795	50	158	90
	Douglas-fir	144	7.6	790	100	150	60
	Western hemlock	106	4.7	995	50	243	90
	Western hemlock	153	10.0	990	100	243	50
	Noble fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
Murtip, clayey	Douglas-fir	117	3.3	795	50	169	90
	Douglas-fir	153	7.4	790	100	162	60
	Western hemlock	112	1.6	995	50	254	90
	Western hemlock	158	18.1	990	100	251	50
	Noble fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
115A:							
Aquepts	Sitka spruce	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
116A:							
Aquepts, warm	Red alder	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
118B:							
Oxyaquic Hapludands, flood plains	Douglas-fir	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
	Bigleaf maple	---	---	---	---	---	---
Alic Hapludands, terraces	Douglas-fir	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Bigleaf maple	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
119B:							
Oxyaquic Fulvudands, flood plains	Sitka spruce	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
Typic Fulvudands, terraces	Western hemlock	---	---	---	---	---	---
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Common trees	Site index average	Site index standard deviation*	NRCS ADP number	Site index base age	Volume of wood fiber (CMAI)	CMAI age
			Ft		Yrs	Cu ft/ac/yr	Yrs
120C:							
Alic Hapludands, terraces	Douglas-fir	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Bigleaf maple	---	---	---	---	---	---
Alic Hapludands, fans	Douglas-fir	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Bigleaf maple	---	---	---	---	---	---
121D:							
Fendall	Douglas-fir	159	3.9	790	100	169	60
	Douglas-fir	124	4.8	795	50	182	90
	Red alder	---	---	---	---	---	---
	Sitka spruce	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
Munsoncreek	Western hemlock	126	7.5	995	50	283	90
	Western hemlock	179	13.1	990	100	290	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
125B:							
Siletz	Douglas-fir	123	1.4	795	50	180	90
	Douglas-fir	160	6.4	790	100	170	60
	Red alder	---	---	---	---	---	---
	Sitka spruce	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
126B:							
Siletz, warm	Douglas-fir	160	6.4	790	100	170	60
	Douglas-fir	123	1.4	795	50	180	90
	Red alder	---	---	---	---	---	---
	Sitka spruce	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
127C:							
Condorbridge, warm	Douglas-fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Sitka spruce	---	---	---	---	248	---
	Western hemlock	---	---	---	---	290	---
128B:							
Siletz	Douglas-fir	160	6.4	790	100	170	60
	Douglas-fir	123	1.4	795	50	180	90
	Red alder	---	---	---	---	---	---
	Sitka spruce	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Common trees	Site index average	Site index standard deviation*	NRCS ADP number	Site index base age	Volume of wood fiber (CMAI)	CMAI age
			Ft		Yrs	Cu ft/ac/yr	Yrs
128B:							
Wolfer	---	---	---	---	---	---	---
144F:							
Harslow, south slopes	Douglas-fir	115	7.6	795	50	163	90
	Douglas-fir	156	4.0	790	100	165	60
	Western hemlock	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Bigleaf maple	---	---	---	---	---	---
Rock outcrop, south slopes	---	---	---	---	---	---	---
Klistan, south slopes	Douglas-fir	125	---	795	50	184	---
	Douglas-fir	164	---	790	100	174	---
	Western hemlock	---	---	---	---	---	---
	Bigleaf maple	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
145F:							
Rock outcrop	---	---	---	---	---	---	---
Harslow	Douglas-fir	115	7.6	795	50	163	90
	Douglas-fir	156	4.0	790	100	165	60
	Western hemlock	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Bigleaf maple	---	---	---	---	---	---
156F:							
Sevencedars	Douglas-fir	160	---	781	100	---	---
	Noble fir	---	---	---	---	---	---
	Pacific silver fir	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
Newanna	Douglas-fir	---	---	---	---	---	---
	Noble fir	---	---	---	---	---	---
	Pacific silver fir	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
157D:							
Caterl, till substratum	Douglas-fir	112	4.2	795	50	158	90
	Douglas-fir	144	7.6	790	100	150	60
	Western hemlock	106	4.7	995	50	243	90
	Western hemlock	153	10.0	990	100	243	50
	Noble fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
157E:							
Caterl, till substratum	Douglas-fir	112	4.2	795	50	158	90
	Douglas-fir	144	7.6	790	100	150	60
	Western hemlock	106	4.7	995	50	243	90
	Western hemlock	153	10.0	990	100	243	50
	Noble fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Common trees	Site index average	Site index standard deviation*	NRCS ADP number	Site index base age	Volume of wood fiber (CMAI)	CMAI age
			Ft		Yrs	Cu ft/ac/yr	Yrs
157F:							
Caterl, till substratum	Douglas-fir	112	4.2	795	50	158	90
	Douglas-fir	144	7.6	790	100	150	60
	Western hemlock	106	4.7	995	50	243	90
	Western hemlock	153	10.0	990	100	243	50
	Noble fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
158D:							
Sevencedars, till substratum	Douglas-fir	160	---	781	100	---	---
	Noble fir	---	---	---	---	---	---
	Pacific silver fir	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
158E:							
Sevencedars, till substratum	Douglas-fir	160	---	781	100	---	---
	Noble fir	---	---	---	---	---	---
	Pacific silver fir	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
158F:							
Sevencedars, till substratum	Douglas-fir	160	---	781	100	---	---
	Noble fir	---	---	---	---	---	---
	Pacific silver fir	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
159D:							
Sevencedars, clayey	Douglas-fir	160	---	781	100	---	---
	Noble fir	---	---	---	---	---	---
	Pacific silver fir	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
161D:							
Sevencedars	Douglas-fir	160	---	781	100	---	---
	Noble fir	---	---	---	---	---	---
	Pacific silver fir	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
Newanna	Douglas-fir	---	---	---	---	---	---
	Noble fir	---	---	---	---	---	---
	Pacific silver fir	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
Woodspoint	Douglas-fir	---	---	---	---	---	---
	Noble fir	---	---	---	---	---	---
	Pacific silver fir	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
161E:							
Sevencedars	Douglas-fir	160	---	781	100	---	---
	Noble fir	---	---	---	---	---	---
	Pacific silver fir	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity						
	Common trees	Site index average	Site index standard deviation*	NRCS ADP number	Site index base age	Volume of wood fiber (CMAI)	CMAI age
			Ft		*Yrs*	*Cu ft/ac/yr*	*Yrs*
161E:							
Newanna-----------------	Douglas-fir---------	---	---	---	---	---	---
	Noble fir-----------	---	---	---	---	---	---
	Pacific silver fir--	---	---	---	---	---	---
	Western hemlock-----	---	---	---	---	---	---
Woodspoint--------------	Douglas-fir---------	---	---	---	---	---	---
	Noble fir-----------	---	---	---	---	---	---
	Pacific silver fir--	---	---	---	---	---	---
	Western hemlock-----	---	---	---	---	---	---
161F:							
Newanna-----------------	Douglas-fir---------	---	---	---	---	---	---
	Noble fir-----------	---	---	---	---	---	---
	Pacific silver fir--	---	---	---	---	---	---
	Western hemlock-----	---	---	---	---	---	---
Sevencedars-------------	Douglas-fir---------	160	---	781	100	---	---
	Noble fir-----------	---	---	---	---	---	---
	Pacific silver fir--	---	---	---	---	---	---
	Western hemlock-----	---	---	---	---	---	---
Rock outcrop------------	---	---	---	---	---	---	---
162D:							
Mosscreek---------------	Western hemlock-----	103	6.6	995	50	237	90
	Western hemlock-----	146	9.7	990	100	230	50
	Noble fir-----------	---	---	---	---	---	---
	Sitka spruce--------	---	---	---	---	---	---
	Douglas-fir---------	105	2.3	795	50	145	90
	Douglas-fir---------	139	8.6	790	100	144	60
	Red alder-----------	---	---	---	---	---	---
	Western redcedar----	---	---	---	---	---	---
Fawceter----------------	Western hemlock-----	100	6.4	995	50	230	90
	Western hemlock-----	146	10.6	990	100	230	50
	Noble fir-----------	---	---	---	---	---	---
	Sitka spruce--------	---	---	---	---	---	---
	Douglas-fir---------	101	3.5	795	50	138	90
	Douglas-fir---------	131	13.4	790	100	131	60
	Red alder-----------	---	---	---	---	---	---
	Western redcedar----	---	---	---	---	---	---
162E:							
Mosscreek---------------	Western hemlock-----	103	6.6	995	50	237	90
	Western hemlock-----	146	9.7	990	100	230	50
	Noble fir-----------	---	---	---	---	---	---
	Sitka spruce--------	---	---	---	---	---	---
	Douglas-fir---------	105	2.3	795	50	145	90
	Douglas-fir---------	139	8.6	790	100	144	60
	Red alder-----------	---	---	---	---	---	---
	Western redcedar----	---	---	---	---	---	---

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Common trees	Site index average	Site index standard deviation*	NRCS ADP number	Site index base age	Volume of wood fiber (CMAI)	CMAI age
			Ft		*Yrs*	*Cu ft/ac/yr*	*Yrs*
162E:							
Fawceter	Western hemlock	100	6.4	995	50	230	90
	Western hemlock	146	10.6	990	100	230	50
	Noble fir	---	---	---	---	---	---
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	101	3.5	795	50	138	90
	Douglas-fir	131	13.4	790	100	131	60
	Red alder	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
163F:							
Fawceter	Western hemlock	100	6.4	995	50	230	90
	Western hemlock	146	10.6	990	100	230	50
	Noble fir	---	---	---	---	---	---
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	101	3.5	795	50	138	90
	Douglas-fir	131	13.4	790	100	131	60
	Red alder	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
Killam	Douglas-fir	---	---	---	---	---	---
	Noble fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Sitka spruce	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
Mosscreek	Western hemlock	103	6.6	995	50	237	90
	Western hemlock	146	9.7	990	100	230	50
	Noble fir	---	---	---	---	---	---
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	105	2.3	795	50	145	90
	Douglas-fir	139	8.6	790	100	144	60
	Red alder	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
164F:							
Killam	Douglas-fir	---	---	---	---	---	---
	Noble fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Sitka spruce	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
Fawceter	Western hemlock	100	6.4	995	50	230	90
	Western hemlock	146	10.6	990	100	230	50
	Noble fir	---	---	---	---	---	---
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	101	3.5	795	50	138	90
	Douglas-fir	131	13.4	790	100	131	60
	Red alder	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
Rock outcrop	---	---	---	---	---	---	---
166F:							
Rock outcrop	---	---	---	---	---	---	---

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Common trees	Site index average	Site index standard deviation*	NRCS ADP number	Site index base age	Volume of wood fiber (CMAI)	CMAI age
			Ft		*Yrs*	*Cu ft/ac/yr*	*Yrs*
166F:							
Killam	Douglas-fir	---	---	---	---	---	---
	Noble fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Sitka spruce	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
174C:							
Typic Fulvudands, terraces	Western hemlock	---	---	---	---	---	---
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
Typic Fulvudands, fans	Western hemlock	---	---	---	---	---	---
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
175D:							
Astoria	Douglas-fir	130	8.5	795	50	193	90
	Douglas-fir	173	7.1	790	100	184	60
	Western hemlock	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
	Bigleaf maple	---	---	---	---	---	---
176D:							
Preacher	Douglas-fir	128	11.5	795	50	190	90
	Douglas-fir	173	13.8	790	100	184	60
	Western hemlock	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Bigleaf maple	---	---	---	---	---	---
Bohannon	Douglas-fir	120	5.4	795	50	175	90
	Douglas-fir	162	10.0	790	100	172	60
	Western hemlock	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Bigleaf maple	---	---	---	---	---	---
176E:							
Preacher	Douglas-fir	128	11.5	795	50	190	90
	Douglas-fir	173	13.8	790	100	184	60
	Western hemlock	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Bigleaf maple	---	---	---	---	---	---
Bohannon	Douglas-fir	120	5.4	795	50	175	90
	Douglas-fir	162	10.0	790	100	172	60
	Western hemlock	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Bigleaf maple	---	---	---	---	---	---
177B:							
Dystrudepts	Western hemlock	---	---	---	---	---	---
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Common trees	Site index average	Site index standard deviation*	NRCS ADP number	Site index base age	Volume of wood fiber (CMAI)	CMAI age
			Ft		Yrs	Cu ft/ac/yr	Yrs
177B:							
Aquepts	Sitka spruce	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
178B:							
Fluventic Humic Dystrudepts	Sitka spruce	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
Dystrudepts	Western hemlock	---	---	---	---	---	---
	Sitka spruce	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
Aquepts	Sitka spruce	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
180D:							
Salander	Douglas-fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Sitka spruce	168	19.7	490	100	253	70
	Western hemlock	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
180E:							
Salander	Douglas-fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Sitka spruce	168	19.7	490	100	253	70
	Western hemlock	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
Necanicum	Western hemlock	104	7.0	995	50	239	90
	Western hemlock	149	6.6	990	100	236	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	111	9.9	795	50	156	90
	Douglas-fir	155	17.7	790	100	164	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
180F:							
Salander	Douglas-fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Sitka spruce	168	19.7	490	100	253	70
	Western hemlock	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
Necanicum	Western hemlock	104	7.0	995	50	239	90
	Western hemlock	149	6.6	990	100	236	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	111	9.9	795	50	156	90
	Douglas-fir	155	17.7	790	100	164	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Common trees	Site index average	Site index standard deviation*	NRCS ADP number	Site index base age	Volume of wood fiber (CMAI)	CMAI age
			Ft		Yrs	Cu ft/ac/yr	Yrs
180F:							
Neskowin	Western hemlock	97	9.9	995	50	226	90
	Western hemlock	140	11.3	990	100	218	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	109	6.4	795	50	152	90
	Douglas-fir	152	9.2	790	100	161	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
181E:							
Neskowin	Western hemlock	97	9.9	995	50	226	90
	Western hemlock	140	11.3	990	100	218	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	109	6.4	795	50	152	90
	Douglas-fir	152	9.2	790	100	161	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
Salander	Douglas-fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Sitka spruce	168	19.7	490	100	253	70
	Western hemlock	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
181F:							
Neskowin	Western hemlock	97	9.9	995	50	226	90
	Western hemlock	140	11.3	990	100	218	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	109	6.4	795	50	152	90
	Douglas-fir	152	9.2	790	100	161	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
Rock outcrop	---	---	---	---	---	---	---
Necanicum	Western hemlock	104	7.0	995	50	239	90
	Western hemlock	149	6.6	990	100	236	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	111	9.9	795	50	156	90
	Douglas-fir	155	17.7	790	100	164	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
182D:							
Neotsu	Douglas-fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Sitka spruce	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
Salander	Douglas-fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Sitka spruce	168	19.7	490	100	253	70
	Western hemlock	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index average	Site index standard deviation*	NRCS ADP number	Site index base age	Volume of wood fiber (CMAI)	CMAI age
			Ft		Yrs	Cu ft/ac/yr	Yrs
183D:							
Winema	Douglas-fir	132	0.7	795	50	197	90
	Douglas-fir	173	0.7	790	100	184	60
	Red alder	---	---	---	---	---	---
	Sitka spruce	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
Fendall	Douglas-fir	159	3.9	790	100	169	60
	Douglas-fir	124	4.8	795	50	182	90
	Red alder	---	---	---	---	---	---
	Sitka spruce	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
185F:							
Udorthents, steep	Red alder	---	---	---	---	---	---
	Sitka spruce	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
Rock outcrop	---	---	---	---	---	---	---
190D:							
Mulkey	---	---	---	---	---	---	---
191B:							
Siletz	Douglas-fir	160	6.4	790	100	170	60
	Douglas-fir	123	1.4	795	50	180	90
	Red alder	---	---	---	---	---	---
	Sitka spruce	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
Euchre	---	---	---	---	---	---	---
192A:							
Yachats, occasional flooding	---	---	---	---	---	---	---
303F:							
Ascar	Western hemlock	105	1.4	995	50	241	90
	Western hemlock	148	3.5	990	100	234	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	111	12.9	795	50	156	90
	Douglas-fir	146	12.5	790	100	153	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
Rock outcrop	---	---	---	---	---	---	---
307F:							
Braun	Douglas-fir	125	6.0	795	50	184	90
	Douglas-fir	162	10.5	790	100	171	60
	Western hemlock	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Common trees	Site index average	Site index standard deviation*	NRCS ADP number	Site index base age	Volume of wood fiber (CMAI)	CMAI age
			Ft		Yrs	Cu ft/ac/yr	Yrs
307F:							
Scaponia	Douglas-fir	132	5.3	795	50	197	90
	Douglas-fir	174	7.2	790	100	185	60
	Western hemlock	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
309D:							
Caterl	Douglas-fir	112	4.2	795	50	158	90
	Douglas-fir	144	7.6	790	100	150	60
	Western hemlock	106	4.7	995	50	243	90
	Western hemlock	153	10.0	990	100	243	50
	Noble fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
Laderly	Douglas-fir	113	6.3	795	50	160	90
	Douglas-fir	149	9.8	790	100	157	60
	Western hemlock	---	---	---	---	---	---
	Noble fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
309E:							
Caterl	Douglas-fir	112	4.2	795	50	158	90
	Douglas-fir	144	7.6	790	100	150	60
	Western hemlock	106	4.7	995	50	243	90
	Western hemlock	153	10.0	990	100	243	50
	Noble fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
Laderly	Douglas-fir	113	6.3	795	50	160	90
	Douglas-fir	149	9.8	790	100	157	60
	Western hemlock	---	---	---	---	---	---
	Noble fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
322F:							
Harslow	Douglas-fir	115	7.6	795	50	163	90
	Douglas-fir	156	4.0	790	100	165	60
	Western hemlock	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Bigleaf maple	---	---	---	---	---	---
Kilchis	Douglas-fir	90	3.8	795	50	116	90
	Douglas-fir	116	1.5	790	100	108	60
	Western hemlock	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Bigleaf maple	---	---	---	---	---	---
327:							
Dystrudepts, steep	Western hemlock	---	---	---	---	---	---
	Sitka spruce	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
328:							
Dystrudepts	Western hemlock	---	---	---	---	---	---
	Sitka spruce	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Common trees	Site index average	Site index standard deviation*	NRCS ADP number	Site index base age	Volume of wood fiber (CMAI)	CMAI age
			Ft		Yrs	Cu ft/ac/yr	Yrs
328:							
Humaquepts, isomesic	Western hemlock	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
	Douglas-fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
329F:							
Kilchis	Douglas-fir	90	3.8	795	50	116	90
	Douglas-fir	116	1.5	790	100	108	60
	Western hemlock	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Bigleaf maple	---	---	---	---	---	---
Rock outcrop	---	---	---	---	---	---	---
338F:							
Laderly	Douglas-fir	113	6.3	795	50	160	90
	Douglas-fir	149	9.8	790	100	157	60
	Western hemlock	---	---	---	---	---	---
	Noble fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
Rock outcrop	---	---	---	---	---	---	---
342D:							
McMille	Douglas-fir	---	---	---	---	---	---
	Noble fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
346D:							
Murtip	Douglas-fir	117	3.3	795	50	169	90
	Douglas-fir	153	7.4	790	100	162	60
	Western hemlock	112	1.6	995	50	254	90
	Western hemlock	158	18.1	990	100	251	50
	Noble fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
347E:							
Murtip	Douglas-fir	117	3.3	795	50	169	90
	Douglas-fir	153	7.4	790	100	162	60
	Western hemlock	112	1.6	995	50	254	90
	Western hemlock	158	18.1	990	100	251	50
	Noble fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
Caterl	Douglas-fir	112	4.2	795	50	158	90
	Douglas-fir	144	7.6	790	100	150	60
	Western hemlock	106	4.7	995	50	243	90
	Western hemlock	153	10.0	990	100	243	50
	Noble fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Common trees	Site index average	Site index standard deviation*	NRCS ADP number	Site index base age	Volume of wood fiber (CMAI)	CMAI age
			Ft		*Yrs*	*Cu ft/ac/yr*	*Yrs*
350E:							
Necanicum	Western hemlock	104	7.0	995	50	239	90
	Western hemlock	149	6.6	990	100	236	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	111	9.9	795	50	156	90
	Douglas-fir	155	17.7	790	100	164	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
Ascar	Western hemlock	105	1.4	995	50	241	90
	Western hemlock	148	3.5	990	100	234	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	111	12.9	795	50	156	90
	Douglas-fir	146	12.5	790	100	153	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
356D:							
Rinearson	Douglas-fir	132	5.6	795	50	195	90
	Douglas-fir	168	8.8	790	100	180	60
	Western hemlock	---	---	---	---	---	---
	Red alder	98	5.3	100	50	115	40
	Bigleaf maple	---	---	---	---	---	---
357E:							
Scaponia	Douglas-fir	132	5.3	795	50	197	90
	Douglas-fir	174	7.2	790	100	185	60
	Western hemlock	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
Braun	Douglas-fir	125	6.0	795	50	184	90
	Douglas-fir	162	10.5	790	100	171	60
	Western hemlock	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
358D:							
Skipanon	Western hemlock	112	1.7	995	50	254	90
	Western hemlock	159	2.1	990	100	252	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	127	2.1	795	50	188	90
	Douglas-fir	167	10.6	790	100	178	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
358E:							
Skipanon	Western hemlock	112	1.7	995	50	254	90
	Western hemlock	159	2.1	990	100	252	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	127	2.1	795	50	188	90
	Douglas-fir	167	10.6	790	100	178	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Common trees	Site index average	Site index standard deviation*	NRCS ADP number	Site index base age	Volume of wood fiber (CMAI)	CMAI age
			Ft		Yrs	Cu ft/ac/yr	Yrs
359D:							
Svensen	Western hemlock	117	4.0	995	50	264	90
	Western hemlock	166	6.2	990	100	266	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	120	8.7	795	50	175	90
	Douglas-fir	155	9.9	790	100	164	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
359E:							
Svensen	Western hemlock	117	4.0	995	50	264	90
	Western hemlock	166	6.2	990	100	266	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	120	8.7	795	50	175	90
	Douglas-fir	155	9.9	790	100	164	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
363D:							
Tolke	Douglas-fir	130	4.8	795	50	193	90
	Douglas-fir	168	5.8	790	100	179	60
	Western hemlock	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
	Bigleaf maple	---	---	---	---	---	---
371C:							
Walluski	Douglas-fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Sitka spruce	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
403E:							
Astoria	Douglas-fir	130	8.5	795	50	193	90
	Douglas-fir	173	7.1	790	100	184	60
	Western hemlock	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
	Bigleaf maple	---	---	---	---	---	---
420E:							
Hembre	Douglas-fir	125	5.9	795	50	184	90
	Douglas-fir	166	10.3	790	100	177	60
	Western hemlock	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
	Bigleaf maple	---	---	---	---	---	---
420F:							
Hembre	Douglas-fir	125	5.9	795	50	184	90
	Douglas-fir	166	10.3	790	100	177	60
	Western hemlock	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
	Bigleaf maple	---	---	---	---	---	---

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Common trees	Site index average	Site index standard deviation*	NRCS ADP number	Site index base age	Volume of wood fiber (CMAI)	CMAI age
			Ft		Yrs	Cu ft/ac/yr	Yrs
425E:							
Klickitat	Douglas-fir	112	7.1	795	50	158	90
	Douglas-fir	142	9.8	790	100	148	60
	Western hemlock	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Bigleaf maple	---	---	---	---	---	---
433D:							
Melby	Bigleaf maple	---	---	---	---	---	---
	Douglas-fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
433E:							
Melby	Bigleaf maple	---	---	---	---	---	---
	Douglas-fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
439E:							
Tolke	Douglas-fir	130	4.8	795	50	193	90
	Douglas-fir	168	5.8	790	100	179	60
	Western hemlock	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
	Bigleaf maple	---	---	---	---	---	---
501D:							
Apt	Bigleaf maple	---	---	---	---	---	---
	Douglas-fir	138	8.5	795	50	210	90
	Douglas-fir	179	8.8	790	100	190	60
	Red alder	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
McDuff	Bigleaf maple	---	---	---	---	---	---
	Douglas-fir	146	6.6	790	100	153	60
	Douglas-fir	110	4.7	795	50	154	90
	Red alder	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
501E:							
Apt	Bigleaf maple	---	---	---	---	---	---
	Douglas-fir	138	8.5	795	50	210	90
	Douglas-fir	179	8.8	790	100	190	60
	Red alder	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
McDuff	Bigleaf maple	---	---	---	---	---	---
	Douglas-fir	146	6.6	790	100	153	60
	Douglas-fir	110	4.7	795	50	154	90
	Red alder	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Common trees	Site index average	Site index standard deviation*	NRCS ADP number	Site index base age	Volume of wood fiber (CMAI)	CMAI age
			Ft		Yrs	Cu ft/ac/yr	Yrs
519D:							
Fendall	Douglas-fir	159	3.9	790	100	169	60
	Douglas-fir	124	4.8	795	50	182	90
	Red alder	---	---	---	---	---	---
	Sitka spruce	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
Winema	Douglas-fir	173	0.7	790	100	184	60
	Douglas-fir	132	0.7	795	50	197	90
	Red alder	---	---	---	---	---	---
	Sitka spruce	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
532D:							
Klootchie	Western hemlock	115	5.8	995	50	260	90
	Western hemlock	163	8.3	990	100	260	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	120	8.2	795	50	175	90
	Douglas-fir	159	8.7	790	100	169	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
Neotsu	Douglas-fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Sitka spruce	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
532E:							
Klootchie	Western hemlock	115	5.8	995	50	260	90
	Western hemlock	163	8.3	990	100	260	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	120	8.2	795	50	175	90
	Douglas-fir	159	8.7	790	100	169	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
Neotsu	Douglas-fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Sitka spruce	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
543F:							
Neotsu	Douglas-fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Sitka spruce	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
Necanicum	Western hemlock	104	7.0	995	50	239	90
	Western hemlock	149	6.6	990	100	236	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	111	9.9	795	50	156	90
	Douglas-fir	155	17.7	790	100	164	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Common trees	Site index average	Site index standard deviation*	NRCS ADP number	Site index base age	Volume of wood fiber (CMAI)	CMAI age
			Ft		Yrs	Cu ft/ac/yr	Yrs
552F:							
Reedsport	Douglas-fir	151	6.6	790	100	159	60
	Douglas-fir	116	6.1	795	50	163	90
	Red alder	---	---	---	---	---	---
	Sitka spruce	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
Tolovana	Western hemlock	122	5.9	995	50	275	90
	Western hemlock	172	8.6	990	100	278	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	124	6.8	795	50	182	90
	Douglas-fir	170	9.0	790	100	181	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
555D:							
Templeton	Western hemlock	116	4.1	995	50	262	90
	Western hemlock	167	7.7	990	100	268	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	125	1.4	795	50	184	90
	Douglas-fir	152	10.1	790	100	161	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
Fendall	Douglas-fir	159	3.9	790	100	169	60
	Douglas-fir	124	4.8	795	50	182	90
	Red alder	---	---	---	---	---	---
	Sitka spruce	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
556D:							
Tolovana	Western hemlock	122	5.9	995	50	275	90
	Western hemlock	172	8.6	990	100	278	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	124	6.8	795	50	182	90
	Douglas-fir	170	9.0	790	100	181	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
Reedsport	Douglas-fir	151	6.6	790	100	159	60
	Douglas-fir	116	6.1	795	50	163	90
	Red alder	---	---	---	---	---	---
	Sitka spruce	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
556E:							
Tolovana	Western hemlock	122	5.9	995	50	275	90
	Western hemlock	172	8.6	990	100	278	50
	Sitka spruce	---	---	---	---	---	---
	Douglas-fir	124	6.8	795	50	182	90
	Douglas-fir	170	9.0	790	100	181	60
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Common trees	Site index average	Site index standard deviation*	NRCS ADP number	Site index base age	Volume of wood fiber (CMAI)	CMAI age
			Ft		*Yrs*	*Cu ft/ac/yr*	*Yrs*
556E:							
Reedsport	Douglas-fir	151	6.6	790	100	159	60
	Douglas-fir	116	6.1	795	50	163	90
	Red alder	---	---	---	---	---	---
	Sitka spruce	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
611B:							
Dystrudepts, warm	Douglas-fir	---	---	---	---	---	---
	Western hemlock	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
	Bigleaf maple	---	---	---	---	---	---
Aquepts, warm	Western hemlock	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---
Humaquepts, warm	Western hemlock	---	---	---	---	---	---
	Western redcedar	---	---	---	---	---	---
	Douglas-fir	---	---	---	---	---	---
	Red alder	---	---	---	---	---	---

*The site index standard deviation provides a measure of the statistical dispersion of the plot site index data. The standard deviation is only given if three or more plots were used to calculate the average site index.

Table 8.--Haul Roads, Log Landings, and Soil Rutting on Forestland

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1A:							
Brenner	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Ponding	1.00	Low strength	1.00
		Wetness	1.00	Flooding	1.00		
		Low strength	0.50	Low strength	0.50		
				Wetness	0.50		
2A:							
Fluvaquents	60	Severe		Poorly suited		Severe	
		Flooding	1.00	Ponding	1.00	Low strength	1.00
		Wetness	1.00	Flooding	1.00	Wetness	0.50
				Wetness	1.00		
				Low strength	0.50		
Histosols	35	Severe		Poorly suited		Severe	
		Flooding	1.00	Low strength	1.00	Low strength	1.00
		Wetness	1.00	Ponding	1.00	Wetness	0.50
				Flooding	1.00		
				Wetness	1.00		
3A:							
Coquille	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Ponding	1.00	Low strength	1.00
		Wetness	1.00	Flooding	1.00		
		Low strength	0.50	Wetness	1.00		
				Low strength	0.50		
4D:							
Ginsberg	85	Moderate		Moderately suited		Severe	
		Slope	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
4E:							
Ginsberg	60	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
Klistan	20	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
5E:							
Ferrelo	90	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
6D:							
Horseprairie	65	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Slope	0.50		
Ferrelo	25	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Slope	0.50		

Table 8.--Haul Roads, Log Landings, and Soil Rutting on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
7:							
Dune land	80	Not rated		Not rated		Not rated	
8A:							
Depoe	85	Severe		Poorly suited		Severe	
		Wetness	1.00	Ponding	1.00	Low strength	1.00
		Sandiness	0.50	Wetness	1.00	Wetness	0.50
		Low strength	0.50	Low strength	0.50		
9B:							
Waldport	85	Slight		Well suited		Moderate	
						Low strength	0.50
9C:							
Waldport	85	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
9D:							
Waldport	85	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
9E:							
Waldport	85	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Low strength	0.50
10B:							
Waldport, thin surface	85	Slight		Well suited		Moderate	
						Low strength	0.50
10C:							
Waldport, thin surface	90	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
10E:							
Waldport, thin surface	85	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Low strength	0.50
11B:							
Netarts	85	Slight		Moderately suited		Severe	
				Low strength	0.50	Low strength	1.00
11C:							
Netarts	90	Slight		Moderately suited		Severe	
				Low strength	0.50	Low strength	1.00
				Slope	0.50		
11D:							
Netarts	90	Moderate		Moderately suited		Severe	
		Slope	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
11E:							
Netarts	90	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
				Low strength	0.50		

Table 8.--Haul Roads, Log Landings, and Soil Rutting on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
12B:							
Yaquina	85	Severe		Poorly suited		Moderate	
		Wetness	1.00	Ponding	1.00	Low strength	0.50
				Wetness	0.50		
13B:							
Waldport, thin surface	70	Slight		Well suited		Moderate	
						Low strength	0.50
Heceta	25	Severe		Poorly suited		Moderate	
		Wetness	1.00	Ponding	1.00	Low strength	0.50
				Wetness	1.00	Wetness	0.50
14A:							
Heceta	85	Severe		Poorly suited		Moderate	
		Wetness	1.00	Ponding	1.00	Low strength	0.50
				Wetness	1.00	Wetness	0.50
15B:							
Netarts	50	Slight		Moderately suited		Severe	
				Low strength	0.50	Low strength	1.00
Yaquina	45	Severe		Poorly suited		Moderate	
		Wetness	1.00	Ponding	1.00	Low strength	0.50
				Wetness	0.50		
16F:							
Caterl	45	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
Laderly	25	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
Murtip	20	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	1.00		
17B:							
Chitwood	50	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Wetness	0.50		
Hebo	35	Moderate		Poorly suited		Severe	
		Low strength	0.50	Ponding	1.00	Low strength	1.00
				Wetness	1.00		
				Low strength	0.50		
18B:							
Chitwood	80	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Wetness	0.50		
18C:							
Chitwood	80	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Slope	0.50		
				Wetness	0.50		

Table 8.--Haul Roads, Log Landings, and Soil Rutting on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
19E:							
Klootchie-----------	85	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	1.00		
20D:							
Klootchie-----------	60	Moderate		Poorly suited		Severe	
		Slope	0.50	Low strength	1.00	Low strength	1.00
				Slope	0.50		
Necanicum-----------	25	Moderate		Moderately suited		Slight	
		Slope	0.50	Slope	0.50	Strength	0.10
20E:							
Klootchie-----------	55	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	1.00		
Necanicum-----------	30	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
21F:							
Necanicum-----------	40	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
Ascar---------------	25	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
Klootchie-----------	20	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	1.00		
22F:							
Ascar---------------	35	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
Necanicum-----------	30	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
Rock outcrop--------	20	Not rated		Not rated		Not rated	
23F:							
Rock outcrop--------	60	Not rated		Not rated		Not rated	
Ascar---------------	25	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
24C:							
Lebam---------------	85	Severe		Poorly suited		Severe	
		Low strength	1.00	Low strength	1.00	Low strength	1.00
24D:							
Lebam---------------	85	Moderate		Poorly suited		Severe	
		Slope	0.50	Low strength	1.00	Low strength	1.00
				Slope	0.50		
25E:							
Lebam---------------	60	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	1.00		

Table 8.--Haul Roads, Log Landings, and Soil Rutting on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
25E:							
Necanicum-----------	20	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
26F:							
Lebam---------------	55	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	1.00		
Necanicum-----------	25	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
28D:							
Templeton-----------	60	Severe		Poorly suited		Severe	
		Low strength	1.00	Low strength	1.00	Low strength	1.00
		Slope	0.50	Slope	0.50		
Necanicum-----------	25	Moderate		Moderately suited		Slight	
		Slope	0.50	Slope	0.50	Strength	0.10
29D:							
Templeton-----------	50	Severe		Poorly suited		Severe	
		Low strength	1.00	Low strength	1.00	Low strength	1.00
		Slope	0.50	Slope	0.50		
Klootchie-----------	35	Moderate		Poorly suited		Severe	
		Slope	0.50	Low strength	1.00	Low strength	1.00
				Slope	0.50		
29E:							
Templeton-----------	45	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	1.00		
Klootchie-----------	40	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	1.00		
30D:							
Templeton-----------	85	Severe		Poorly suited		Severe	
		Low strength	1.00	Low strength	1.00	Low strength	1.00
		Slope	0.50	Slope	0.50		
30E:							
Templeton-----------	60	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	1.00		
Ecola---------------	20	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	1.00		
30F:							
Templeton-----------	45	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	1.00		
Ecola---------------	40	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	1.00		

Table 8.--Haul Roads, Log Landings, and Soil Rutting on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
31D:							
Tolovana------------	45	Moderate		Poorly suited		Severe	
		Slope	0.50	Low strength	1.00	Low strength	1.00
				Slope	0.50		
Templeton-----------	40	Severe		Poorly suited		Severe	
		Low strength	1.00	Low strength	1.00	Low strength	1.00
		Slope	0.50	Slope	0.50		
31E:							
Tolovana------------	50	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	1.00		
Templeton-----------	25	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	1.00		
32D:							
Munsoncreek---------	65	Moderate		Poorly suited		Severe	
		Slope	0.50	Low strength	1.00	Low strength	1.00
				Slope	0.50		
Flowerpot-----------	20	Moderate		Poorly suited		Severe	
		Slope	0.50	Low strength	1.00	Low strength	1.00
				Slope	0.50		
				Wetness	0.50		
32E:							
Munsoncreek---------	65	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	1.00		
Templeton-----------	20	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	1.00		
33D:							
Tolovana------------	85	Moderate		Poorly suited		Severe	
		Slope	0.50	Low strength	1.00	Low strength	1.00
				Slope	0.50		
37D:							
Templeton-----------	45	Severe		Poorly suited		Severe	
		Low strength	1.00	Low strength	1.00	Low strength	1.00
		Slope	0.50	Slope	0.50		
Skipanon------------	30	Moderate		Moderately suited		Slight	
		Slope	0.50	Slope	0.50	Strength	0.10
37E:							
Templeton-----------	55	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	1.00		
Skipanon------------	30	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
		Low strength	0.50				

Table 8.--Haul Roads, Log Landings, and Soil Rutting on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
38E:							
Templeton-----------	50	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	1.00		
Necanicum-----------	35	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
43F:							
Klistan-------------	35	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
Harslow-------------	30	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
				Sandiness	0.50		
Hemcross------------	25	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
44E:							
Klistan-------------	35	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
Harslow-------------	30	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
				Sandiness	0.50		
Rock outcrop--------	20	Not rated		Not rated		Not rated	
44F:							
Harslow-------------	35	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
				Sandiness	0.50		
Klistan-------------	30	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
Rock outcrop--------	20	Not rated		Not rated		Not rated	
45B:							
Hebo----------------	80	Moderate		Poorly suited		Severe	
		Low strength	0.50	Ponding	1.00	Low strength	1.00
				Wetness	1.00		
				Low strength	0.50		
48D:							
Hemcross------------	60	Moderate		Moderately suited		Severe	
		Slope	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
Klistan-------------	25	Moderate		Moderately suited		Slight	
		Slope	0.50	Slope	0.50	Strength	0.10
		Sandiness	0.50				
		Restrictive layer	0.50				
48E:							
Hemcross------------	50	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		

Table 8.--Haul Roads, Log Landings, and Soil Rutting on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
48E:							
Klistan	35	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
50B:							
Walluski	80	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
51B:							
Walluski	45	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
Chitwood	40	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Wetness	0.50		
51C:							
Walluski	45	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Slope	0.50		
Chitwood	30	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Slope	0.50		
				Wetness	0.50		
54B:							
Knappa	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
55A:							
Histosols	55	Severe		Poorly suited		Severe	
		Flooding	1.00	Low strength	1.00	Low strength	1.00
		Wetness	1.00	Ponding	1.00	Wetness	0.50
				Flooding	1.00		
				Wetness	1.00		
Water	45	Not rated		Not rated		Not rated	
56B:							
Wolfer	80	Severe		Poorly suited		Severe	
		Low strength	1.00	Low strength	1.00	Low strength	1.00
56C:							
Wolfer	85	Severe		Poorly suited		Severe	
		Low strength	1.00	Low strength	1.00	Low strength	1.00
				Slope	0.50		
57B:							
Condorbridge	85	Slight		Well suited		Moderate	
						Low strength	0.50
57C:							
Condorbridge	80	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
58C:							
Knappa	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Slope	0.50		

Table 8.--Haul Roads, Log Landings, and Soil Rutting on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
59B:							
Chitwood	45	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Wetness	0.50		
Knappa	40	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
60E:							
Caterl	35	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
Laderly	30	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
Rock outcrop	25	Not rated		Not rated		Not rated	
60F:							
Laderly	35	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
Caterl	30	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
Rock outcrop	20	Not rated		Not rated		Not rated	
61F:							
Laderly, south slopes	40	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
Rock outcrop, south slopes	25	Not rated		Not rated		Not rated	
Caterl, south slopes	20	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
62F:							
Rock outcrop	60	Not rated		Not rated		Not rated	
Laderly	25	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
70D:							
Murtip	45	Moderate		Poorly suited		Severe	
		Slope	0.50	Low strength	1.00	Low strength	1.00
				Slope	0.50		
Caterl	30	Moderate		Moderately suited		Slight	
		Slope	0.50	Slope	0.50	Strength	0.10
		Restrictive layer	0.50				
Laderly	15	Severe		Moderately suited		Slight	
		Restrictive layer	1.00	Slope	0.50	Strength	0.10
		Slope	0.50				
		Sandiness	0.50				

Table 8.--Haul Roads, Log Landings, and Soil Rutting on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
70E:							
Murtip	40	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	1.00		
Caterl	30	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
Laderly	15	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
71D:							
McMille	50	Moderate		Moderately suited		Severe	
		Slope	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
Mutt	35	Moderate		Moderately suited		Severe	
		Slope	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
72D:							
Caterl, clayey	60	Moderate		Moderately suited		Slight	
		Slope	0.50	Slope	0.50	Strength	0.10
		Restrictive layer	0.50				
Murtip, clayey	20	Moderate		Poorly suited		Severe	
		Slope	0.50	Low strength	1.00	Low strength	1.00
				Slope	0.50		
73A:							
Nehalem, frequent flooding	75	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
74A:							
Nehalem, occasional flooding	80	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
76A:							
Nestucca	90	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
		Wetness	0.50				
77A:							
Nestucca	55	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
		Wetness	0.50				
Brenner	40	Severe		Poorly suited		Severe	
		Flooding	1.00	Ponding	1.00	Low strength	1.00
		Wetness	1.00	Flooding	1.00		
		Low strength	0.50	Low strength	0.50		
				Wetness	0.50		

Table 8.--Haul Roads, Log Landings, and Soil Rutting on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
80B:							
Quillamook----------	80	Severe		Poorly suited		Severe	
		Low strength	1.00	Low strength	1.00	Low strength	1.00
81B:							
Quillamook, gravelly substratum	60	Severe		Poorly suited		Severe	
		Low strength	1.00	Low strength	1.00	Low strength	1.00
Quillamook----------	25	Severe		Poorly suited		Severe	
		Low strength	1.00	Low strength	1.00	Low strength	1.00
81C:							
Quillamook, gravelly substratum	60	Severe		Poorly suited		Severe	
		Low strength	1.00	Low strength	1.00	Low strength	1.00
				Slope	0.50		
Quillamook----------	25	Severe		Poorly suited		Severe	
		Low strength	1.00	Low strength	1.00	Low strength	1.00
				Slope	0.50		
89A:							
Udifluvents---------	40	Severe		Poorly suited		Moderate	
		Flooding	1.00	Flooding	1.00	Low strength	0.50
Riverwash-----------	30	Not rated		Not rated		Not rated	
Water---------------	25	Not rated		Not rated		Not rated	
90A:							
Yachats-------------	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
91A:							
Gauldy--------------	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
92A:							
Yachats-------------	45	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
Gauldy--------------	40	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
93B:							
Gauldy, occasional flooding-----------	50	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
Gauldy, rare flooding-----------	35	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00

Table 8.--Haul Roads, Log Landings, and Soil Rutting on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
94B:							
Ginger---------------	35	Severe		Poorly suited		Severe	
		Low strength	1.00	Low strength	1.00	Low strength	1.00
				Wetness	0.50		
Quillamook----------	30	Severe		Poorly suited		Severe	
		Low strength	1.00	Low strength	1.00	Low strength	1.00
Urban land----------	30	Not rated		Not rated		Not rated	
95B:							
Urban land----------	55	Not rated		Not rated		Not rated	
Quillamook----------	30	Severe		Poorly suited		Severe	
		Low strength	1.00	Low strength	1.00	Low strength	1.00
96B:							
Ginger---------------	40	Severe		Poorly suited		Severe	
		Low strength	1.00	Low strength	1.00	Low strength	1.00
				Wetness	0.50		
Hebo-----------------	35	Moderate		Poorly suited		Severe	
		Low strength	0.50	Ponding	1.00	Low strength	1.00
				Wetness	1.00		
				Low strength	0.50		
99:							
Beaches-------------	95	Not rated		Not rated		Not rated	
100B:							
Urban land----------	65	Not rated		Not rated		Not rated	
Udorthents----------	25	Moderate		Moderately suited		Moderate	
		Sandiness	0.50	Sandiness	0.50	Low strength	0.50
101B:							
Urban land, flooded	65	Not rated		Not rated		Not rated	
Udorthents, flooded	25	Moderate		Moderately suited		Moderate	
		Flooding	0.50	Sandiness	0.50	Low strength	0.50
		Sandiness	0.50	Flooding	0.50		
		Wetness	0.50				
102A:							
Fluvaquents, diked--	60	Severe		Poorly suited		Severe	
		Flooding	1.00	Ponding	1.00	Low strength	1.00
		Wetness	1.00	Flooding	1.00		
				Wetness	1.00		
				Low strength	0.50		
Histosols, diked----	35	Severe		Poorly suited		Severe	
		Flooding	1.00	Low strength	1.00	Low strength	1.00
		Wetness	1.00	Ponding	1.00		
				Flooding	1.00		
				Wetness	1.00		

Table 8.--Haul Roads, Log Landings, and Soil Rutting on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
103A:							
Coquille, diked	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Ponding	1.00	Low strength	1.00
		Wetness	1.00	Flooding	1.00		
		Low strength	0.50	Wetness	1.00		
				Low strength	0.50		
104A:							
Coquille, protected	50	Moderate		Poorly suited		Severe	
		Low strength	0.50	Ponding	1.00	Low strength	1.00
		Wetness	0.50	Low strength	0.50		
				Wetness	0.50		
Brenner, protected	30	Moderate		Poorly suited		Severe	
		Low strength	0.50	Ponding	1.00	Low strength	1.00
		Wetness	0.50	Low strength	0.50		
				Wetness	0.50		
Nehalem, protected	15	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
110F:							
Waldport, thin surface	85	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Low strength	0.50
115A:							
Aquepts	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Ponding	1.00	Low strength	1.00
		Wetness	1.00	Flooding	1.00	Wetness	0.50
		Low strength	0.50	Wetness	1.00		
				Low strength	0.50		
116A:							
Aquepts, warm	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Ponding	1.00	Low strength	1.00
		Wetness	1.00	Flooding	1.00		
		Low strength	0.50	Wetness	1.00		
				Low strength	0.50		
118B:							
Oxyaquic Hapludands, flood plains	45	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Sandiness	0.50	Low strength	0.50		
		Low strength	0.50				
Alic Hapludands, terraces	30	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
119B:							
Oxyaquic Fulvudands, flood plains	45	Severe		Poorly suited		Severe	
		Flooding	1.00	Low strength	1.00	Low strength	1.00
		Low strength	1.00	Flooding	1.00		
		Sandiness	0.50				

Table 8.--Haul Roads, Log Landings, and Soil Rutting on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
119B:							
Typic Fulvudands, terraces	30	Severe		Poorly suited		Severe	
		Low strength	1.00	Low strength	1.00	Low strength	1.00
		Sandiness	0.50				
120C:							
Alic Hapludands, terraces	60	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Landslides	0.01	Landslides	0.01		
Alic Hapludands, fans	35	Moderate		Moderately suited		Slight	
		Sandiness	0.50	Slope	0.50	Strength	0.10
		Landslides	0.06	Landslides	0.06		
121D:							
Fendall	50	Moderate		Poorly suited		Severe	
		Slope	0.50	Low strength	1.00	Low strength	1.00
				Slope	0.50		
Munsoncreek	30	Moderate		Poorly suited		Severe	
		Slope	0.50	Low strength	1.00	Low strength	1.00
				Slope	0.50		
125B:							
Siletz	80	Severe		Poorly suited		Severe	
		Low strength	1.00	Low strength	1.00	Low strength	1.00
126B:							
Siletz, warm	80	Severe		Poorly suited		Severe	
		Low strength	1.00	Low strength	1.00	Low strength	1.00
127C:							
Condorbridge, warm	80	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
128B:							
Siletz	45	Severe		Poorly suited		Severe	
		Low strength	1.00	Low strength	1.00	Low strength	1.00
Wolfer	40	Severe		Poorly suited		Severe	
		Low strength	1.00	Low strength	1.00	Low strength	1.00
144F:							
Harslow, south slopes	40	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
				Sandiness	0.50		
Rock outcrop, south slopes	30	Not rated		Not rated		Not rated	
Klistan, south slopes	20	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
145F:							
Rock outcrop	60	Not rated		Not rated		Not rated	

Table 8.--Haul Roads, Log Landings, and Soil Rutting on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
145F:							
Harslow-------------	25	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
				Sandiness	0.50		
156F:							
Sevencedars---------	55	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Low strength	0.50
Newanna-------------	30	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
157D:							
Caterl, till substratum---------	80	Moderate		Moderately suited		Slight	
		Slope	0.50	Slope	0.50	Strength	0.10
		Sandiness	0.50				
157E:							
Caterl, till substratum---------	80	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
157F:							
Caterl, till substratum---------	80	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
158D:							
Sevencedars, till substratum---------	80	Moderate		Moderately suited		Slight	
		Slope	0.50	Slope	0.50	Strength	0.10
158E:							
Sevencedars, till substratum---------	80	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
158F:							
Sevencedars, till substratum---------	85	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
159D:							
Sevencedars, clayey	85	Moderate		Moderately suited		Slight	
		Slope	0.50	Slope	0.50	Strength	0.10
161D:							
Sevencedars---------	35	Moderate		Moderately suited		Moderate	
		Slope	0.50	Slope	0.50	Low strength	0.50
Newanna-------------	30	Moderate		Moderately suited		Slight	
		Restrictive layer	0.50	Slope	0.50	Strength	0.10
		Slope	0.50				
Woodspoint----------	25	Moderate		Moderately suited		Severe	
		Slope	0.50	Slope	0.50	Low strength	1.00
		Restrictive layer	0.50	Low strength	0.50		

Table 8.--Haul Roads, Log Landings, and Soil Rutting on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
161E:							
Sevencedars---------	50	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Low strength	0.50
Newanna-------------	20	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
Woodspoint----------	20	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
161F:							
Newanna-------------	35	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
Sevencedars---------	35	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Low strength	0.50
Rock outcrop--------	20	Not rated		Not rated		Not rated	
162D:							
Mosscreek-----------	50	Severe		Poorly suited		Severe	
		Low strength	1.00	Low strength	1.00	Low strength	1.00
		Slope	0.50	Slope	0.50		
Fawceter------------	40	Moderate		Moderately suited		Slight	
		Slope	0.50	Slope	0.50	Strength	0.10
		Restrictive layer	0.50				
162E:							
Mosscreek-----------	50	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	1.00		
Fawceter------------	45	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
163F:							
Fawceter------------	40	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
Killam--------------	25	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
				Sandiness	0.50		
Mosscreek-----------	20	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	1.00		
164F:							
Killam--------------	35	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
				Sandiness	0.50		
Fawceter------------	30	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
Rock outcrop--------	20	Not rated		Not rated		Not rated	

Table 8.--Haul Roads, Log Landings, and Soil Rutting on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
166F:							
Rock outcrop	60	Not rated		Not rated		Not rated	
Killam	25	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
				Sandiness	0.50		
170A:							
Logsden	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
170B:							
Logsden	50	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
Nehalem, occasional flooding	40	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
173B:							
Tillamook	45	Severe		Poorly suited		Severe	
		Low strength	1.00	Low strength	1.00	Low strength	1.00
Ginger	40	Severe		Poorly suited		Severe	
		Low strength	1.00	Low strength	1.00	Low strength	1.00
				Wetness	0.50		
173C:							
Tillamook	45	Severe		Poorly suited		Severe	
		Low strength	1.00	Low strength	1.00	Low strength	1.00
				Slope	0.50		
Ginger	40	Severe		Poorly suited		Severe	
		Low strength	1.00	Low strength	1.00	Low strength	1.00
				Slope	0.50		
				Wetness	0.50		
174C:							
Typic Fulvudands, terraces	60	Severe		Poorly suited		Severe	
		Low strength	1.00	Low strength	1.00	Low strength	1.00
		Sandiness	0.50	Landslides	0.01		
		Landslides	0.01				
Typic Fulvudands, fans	35	Slight		Moderately suited		Slight	
		Landslides	0.06	Slope	0.50	Strength	0.10
				Landslides	0.06		
175D:							
Astoria	80	Moderate		Moderately suited		Severe	
		Slope	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
176D:							
Preacher	65	Moderate		Moderately suited		Severe	
		Slope	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		

Table 8.--Haul Roads, Log Landings, and Soil Rutting on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
176D:							
Bohannon	20	Moderate		Moderately suited		Severe	
		Slope	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
176E:							
Preacher	55	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
Bohannon	30	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
177B:							
Dystrudepts	65	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
Aquepts	30	Severe		Poorly suited		Severe	
		Flooding	1.00	Ponding	1.00	Low strength	1.00
		Wetness	1.00	Flooding	1.00	Wetness	0.50
		Low strength	0.50	Wetness	1.00		
				Low strength	0.50		
178B:							
Fluventic Humic Dystrudepts	45	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Sandiness	0.50	Low strength	0.50		
		Low strength	0.50				
Dystrudepts	25	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
Aquepts	20	Severe		Poorly suited		Severe	
		Flooding	1.00	Ponding	1.00	Low strength	1.00
		Wetness	1.00	Flooding	1.00	Wetness	0.50
		Low strength	0.50	Wetness	1.00		
				Low strength	0.50		
180D:							
Salander	85	Severe		Poorly suited		Severe	
		Low strength	1.00	Low strength	1.00	Low strength	1.00
		Slope	0.50	Slope	0.50		
180E:							
Salander	60	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	1.00		
Necanicum	25	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
180F:							
Salander	50	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	1.00		
Necanicum	20	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10

Table 8.--Haul Roads, Log Landings, and Soil Rutting on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
180F:							
Neskowin	15	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
				Low strength	1.00		
181E:							
Neskowin	60	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
				Low strength	1.00		
Salander	25	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	1.00		
181F:							
Neskowin	35	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
				Low strength	1.00		
Rock outcrop	30	Not rated		Not rated		Not rated	
Necanicum	20	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
182D:							
Neotsu	60	Moderate		Poorly suited		Severe	
		Slope	0.50	Low strength	1.00	Low strength	1.00
				Slope	0.50		
Salander	30	Severe		Poorly suited		Severe	
		Low strength	1.00	Low strength	1.00	Low strength	1.00
		Slope	0.50	Slope	0.50		
183D:							
Winema	55	Moderate		Poorly suited		Severe	
		Slope	0.50	Low strength	1.00	Low strength	1.00
				Slope	0.50		
Fendall	30	Moderate		Poorly suited		Severe	
		Slope	0.50	Low strength	1.00	Low strength	1.00
				Slope	0.50		
185F:							
Udorthents, steep	50	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Low strength	0.50
Rock outcrop	30	Not rated		Not rated		Not rated	
190D:							
Mulkey	85	Severe		Poorly suited		Severe	
		Low strength	1.00	Low strength	1.00	Low strength	1.00
		Restrictive layer	0.50	Slope	0.50		
191B:							
Siletz	40	Severe		Poorly suited		Severe	
		Low strength	1.00	Low strength	1.00	Low strength	1.00
Euchre	35	Severe		Poorly suited		Severe	
		Low strength	1.00	Low strength	1.00	Low strength	1.00
				Wetness	0.50		

Table 8.--Haul Roads, Log Landings, and Soil Rutting on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
192A:							
Yachats, occasional flooding	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
303F:							
Ascar	50	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
Rock outcrop	40	Not rated		Not rated		Not rated	
307F:							
Braun	45	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
Scaponia	35	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
309D:							
Caterl	45	Moderate		Moderately suited		Slight	
		Slope	0.50	Slope	0.50	Strength	0.10
		Restrictive layer	0.50				
Laderly	35	Severe		Moderately suited		Slight	
		Restrictive layer	1.00	Slope	0.50	Strength	0.10
		Slope	0.50				
		Sandiness	0.50				
309E:							
Caterl	40	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
Laderly	35	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
314A:							
Croquib	85	Moderate		Poorly suited		Severe	
		Sandiness	0.50	Low strength	1.00	Low strength	1.00
		Low strength	0.50	Ponding	1.00		
				Wetness	1.00		
322F:							
Harslow	50	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
				Sandiness	0.50		
Kilchis	35	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
327:							
Dystrudepts, steep	95	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		

Table 8.--Haul Roads, Log Landings, and Soil Rutting on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
328:							
Dystrudepts	45	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Slope	0.50		
Humaquepts, isomesic	40	Severe		Poorly suited		Severe	
		Wetness	1.00	Ponding	1.00	Low strength	1.00
		Low strength	0.50	Wetness	1.00		
				Low strength	0.50		
329F:							
Kilchis	45	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
Rock outcrop	35	Not rated		Not rated		Not rated	
338F:							
Laderly	40	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
Rock outcrop	35	Not rated		Not rated		Not rated	
342D:							
McMille	85	Moderate		Moderately suited		Severe	
		Slope	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
345A:							
Mues	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
346D:							
Murtip	75	Moderate		Poorly suited		Severe	
		Slope	0.50	Low strength	1.00	Low strength	1.00
				Slope	0.50		
347E:							
Murtip	45	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	1.00		
Caterl	35	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
350E:							
Necanicum	45	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
Ascar	30	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
356D:							
Rinearson	85	Moderate		Moderately suited		Severe	
		Slope	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
357E:							
Scaponia	50	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		

Table 8.--Haul Roads, Log Landings, and Soil Rutting on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
357E:							
Braun	35	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
358D:							
Skipanon	80	Moderate		Moderately suited		Slight	
		Slope	0.50	Slope	0.50	Strength	0.10
358E:							
Skipanon	80	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
		Low strength	0.50				
359D:							
Svensen	85	Moderate		Moderately suited		Severe	
		Slope	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
359E:							
Svensen	85	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
363D:							
Tolke	80	Moderate		Moderately suited		Severe	
		Slope	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
371C:							
Walluski	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Slope	0.50		
403E:							
Astoria	80	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
420E:							
Hembre	85	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
420F:							
Hembre	85	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
425E:							
Klickitat	80	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
433D:							
Melby	80	Moderate		Moderately suited		Severe	
		Slope	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		

Table 8.--Haul Roads, Log Landings, and Soil Rutting on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
433E:							
Melby---------------	80	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
439E:							
Tolke---------------	70	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
501D:							
Apt-----------------	55	Slight		Moderately suited		Severe	
				Slope	0.50	Low strength	1.00
				Low strength	0.50		
McDuff--------------	30	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
501E:							
Apt-----------------	50	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
McDuff--------------	30	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
517A:							
Euchre--------------	85	Severe		Poorly suited		Severe	
		Low strength	1.00	Low strength	1.00	Low strength	1.00
				Wetness	0.50		
519D:							
Fendall-------------	50	Moderate		Poorly suited		Severe	
		Slope	0.50	Low strength	1.00	Low strength	1.00
				Slope	1.00		
Winema--------------	30	Moderate		Poorly suited		Severe	
		Slope	0.50	Low strength	1.00	Low strength	1.00
				Slope	1.00		
532D:							
Klootchie-----------	45	Moderate		Poorly suited		Severe	
		Slope	0.50	Low strength	1.00	Low strength	1.00
				Slope	0.50		
Neotsu--------------	35	Moderate		Poorly suited		Severe	
		Slope	0.50	Low strength	1.00	Low strength	1.00
				Slope	0.50		
532E:							
Klootchie-----------	50	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	1.00		
Neotsu--------------	30	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	1.00		

Table 8.--Haul Roads, Log Landings, and Soil Rutting on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
543F:							
Neotsu	40	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	1.00		
Necanicum	35	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
552F:							
Reedsport	50	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	1.00		
Tolovana	30	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	1.00		
555D:							
Templeton	55	Severe		Poorly suited		Severe	
		Low strength	1.00	Low strength	1.00	Low strength	1.00
		Slope	0.50	Slope	0.50		
Fendall	30	Moderate		Poorly suited		Severe	
		Slope	0.50	Low strength	1.00	Low strength	1.00
				Slope	0.50		
556D:							
Tolovana	45	Moderate		Poorly suited		Severe	
		Slope	0.50	Low strength	1.00	Low strength	1.00
				Slope	0.50		
Reedsport	35	Moderate		Poorly suited		Severe	
		Slope	0.50	Low strength	1.00	Low strength	1.00
				Slope	0.50		
556E:							
Tolovana	50	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	1.00		
Reedsport	35	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	1.00		
611B:							
Dystrudepts, warm	50	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
Aquepts, warm	30	Severe		Poorly suited		Severe	
		Flooding	1.00	Ponding	1.00	Low strength	1.00
		Wetness	1.00	Flooding	1.00	Wetness	0.50
		Low strength	0.50	Wetness	1.00		
				Low strength	0.50		
Humaquepts, warm	15	Severe		Poorly suited		Severe	
		Wetness	1.00	Ponding	1.00	Low strength	1.00
		Low strength	0.50	Wetness	1.00		
				Low strength	0.50		
W:							
Water	100	Not rated		Not rated		Not rated	

Table 9.--Hazard of Erosion and Suitability for Roads on Forestland

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
1A:							
Brenner	85	Slight		Slight		Poorly suited	
						Ponding	1.00
						Flooding	1.00
						Low strength	0.50
						Wetness	0.50
2A:							
Fluvaquents	60	Slight		Slight		Poorly suited	
						Ponding	1.00
						Flooding	1.00
						Wetness	1.00
						Low strength	0.50
Histosols	35	Slight		Slight		Poorly suited	
						Low strength	1.00
						Ponding	1.00
						Flooding	1.00
						Wetness	1.00
3A:							
Coquille	85	Slight		Slight		Poorly suited	
						Ponding	1.00
						Flooding	1.00
						Wetness	1.00
						Low strength	0.50
4D:							
Ginsberg	85	Moderate		Severe		Moderately suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
4E:							
Ginsberg	60	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
Klistan	20	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
5E:							
Ferrelo	90	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
6D:							
Horseprairie	65	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Low strength	0.50
						Slope	0.50
Ferrelo	25	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Low strength	0.50
						Slope	0.50
7:							
Dune land	80	Not rated		Not rated		Not rated	

Table 9.--Hazard of Erosion and Suitability for Roads on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
8A:							
Depoe----------------	85	Slight		Slight		Poorly suited	
						Ponding	1.00
						Wetness	1.00
						Low strength	0.50
9B:							
Waldport------------	85	Slight		Slight		Well suited	
9C:							
Waldport------------	85	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
9D:							
Waldport------------	85	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
9E:							
Waldport------------	85	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
10B:							
Waldport, thin surface------------	85	Slight		Slight		Well suited	
10C:							
Waldport, thin surface------------	90	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
10E:							
Waldport, thin surface------------	85	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
11B:							
Netarts-------------	85	Slight		Slight		Moderately suited	
						Low strength	0.50
11C:							
Netarts-------------	90	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
11D:							
Netarts-------------	90	Moderate		Severe		Moderately suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
11E:							
Netarts-------------	90	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
12B:							
Yaquina-------------	85	Slight		Slight		Poorly suited	
						Ponding	1.00
						Wetness	0.50
13B:							
Waldport, thin surface------------	70	Slight		Slight		Well suited	

Table 9.--Hazard of Erosion and Suitability for Roads on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
13B:							
Heceta	25	Slight		Slight		Poorly suited	
						Ponding	1.00
						Wetness	1.00
14A:							
Heceta	85	Slight		Slight		Poorly suited	
						Ponding	1.00
						Wetness	1.00
15B:							
Netarts	50	Slight		Slight		Moderately suited	
						Low strength	0.50
Yaquina	45	Slight		Slight		Poorly suited	
						Ponding	1.00
						Wetness	0.50
16F:							
Caterl	45	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
Laderly	25	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
Murtip	20	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Low strength	1.00
17B:							
Chitwood	50	Slight		Slight		Moderately suited	
						Low strength	0.50
						Wetness	0.50
Hebo	35	Slight		Moderate		Poorly suited	
				Slope/erodibility	0.50	Ponding	1.00
						Wetness	1.00
						Low strength	0.50
18B:							
Chitwood	80	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Wetness	0.50
18C:							
Chitwood	80	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Low strength	0.50
						Slope	0.50
						Wetness	0.50
19E:							
Klootchie	85	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Low strength	1.00
20D:							
Klootchie	60	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Low strength	1.00
						Slope	0.50
Necanicum	25	Moderate		Moderate		Moderately suited	
		Slope/erodibility	0.50	Slope/erodibility	0.50	Slope	0.50

Table 9.--Hazard of Erosion and Suitability for Roads on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
20E:							
Klootchie	55	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Low strength	1.00
Necanicum	30	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
21F:							
Necanicum	40	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
Ascar	25	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
Klootchie	20	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Low strength	1.00
22F:							
Ascar	35	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
Necanicum	30	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
Rock outcrop	20	Not rated		Not rated		Not rated	
23F:							
Rock outcrop	60	Not rated		Not rated		Not rated	
Ascar	25	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
24C:							
Lebam	85	Slight		Moderate		Poorly suited	
				Slope/erodibility	0.50	Low strength	1.00
24D:							
Lebam	85	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Low strength	1.00
						Slope	0.50
25E:							
Lebam	60	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Low strength	1.00
Necanicum	20	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
26F:							
Lebam	55	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Low strength	1.00
Necanicum	25	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00

Table 9.--Hazard of Erosion and Suitability for Roads on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
28D:							
Templeton-----------	60	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Low strength	1.00
						Slope	0.50
Necanicum-----------	25	Moderate		Moderate		Moderately suited	
		Slope/erodibility	0.50	Slope/erodibility	0.50	Slope	0.50
29D:							
Templeton-----------	50	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Low strength	1.00
						Slope	0.50
Klootchie-----------	35	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Low strength	1.00
						Slope	0.50
29E:							
Templeton-----------	45	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Low strength	1.00
Klootchie-----------	40	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Low strength	1.00
30D:							
Templeton-----------	85	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Low strength	1.00
						Slope	0.50
30E:							
Templeton-----------	60	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Low strength	1.00
Ecola---------------	20	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Low strength	1.00
30F:							
Templeton-----------	45	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Low strength	1.00
Ecola---------------	40	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Low strength	1.00
31D:							
Tolovana------------	45	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Low strength	1.00
						Slope	0.50
Templeton-----------	40	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Low strength	1.00
						Slope	0.50
31E:							
Tolovana------------	50	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Low strength	1.00

Table 9.--Hazard of Erosion and Suitability for Roads on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
31E:							
Templeton-----------	25	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Low strength	1.00
32D:							
Munsoncreek---------	65	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Low strength	1.00
						Slope	0.50
Flowerpot-----------	20	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Low strength	1.00
						Slope	0.50
						Wetness	0.50
32E:							
Munsoncreek---------	65	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Low strength	1.00
Templeton-----------	20	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Low strength	1.00
33D:							
Tolovana------------	85	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Low strength	1.00
						Slope	0.50
37D:							
Templeton-----------	45	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Low strength	1.00
						Slope	0.50
Skipanon------------	30	Moderate		Severe		Moderately suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	0.50
37E:							
Templeton-----------	55	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Low strength	1.00
Skipanon------------	30	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
38E:							
Templeton-----------	50	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Low strength	1.00
Necanicum-----------	35	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
43F:							
Klistan-------------	35	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
Harslow-------------	30	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Sandiness	0.50

Table 9.--Hazard of Erosion and Suitability for Roads on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
43F:							
Hemcross	25	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
44E:							
Klistan	35	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
Harslow	30	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Sandiness	0.50
Rock outcrop	20	Not rated		Not rated		Not rated	
44F:							
Harslow	35	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Sandiness	0.50
Klistan	30	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
Rock outcrop	20	Not rated		Not rated		Not rated	
45B:							
Hebo	80	Slight		Moderate		Poorly suited	
				Slope/erodibility	0.50	Ponding	1.00
						Wetness	1.00
						Low strength	0.50
48D:							
Hemcross	60	Moderate		Severe		Moderately suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
Klistan	25	Moderate		Severe		Moderately suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	0.50
48E:							
Hemcross	50	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
Klistan	35	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
50B:							
Walluski	80	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
51B:							
Walluski	45	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
Chitwood	40	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Wetness	0.50

Table 9.--Hazard of Erosion and Suitability for Roads on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
51C:							
Walluski------------	45	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Low strength	0.50
						Slope	0.50
Chitwood------------	30	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Low strength	0.50
						Slope	0.50
						Wetness	0.50
54B:							
Knappa--------------	85	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
55A:							
Histosols-----------	55	Slight		Slight		Poorly suited	
						Low strength	1.00
						Ponding	1.00
						Flooding	1.00
						Wetness	1.00
Water---------------	45	Not rated		Not rated		Not rated	
56B:							
Wolfer--------------	80	Slight		Moderate		Poorly suited	
				Slope/erodibility	0.50	Low strength	1.00
56C:							
Wolfer--------------	85	Slight		Severe		Poorly suited	
				Slope/erodibility	0.95	Low strength	1.00
						Slope	0.50
57B:							
Condorbridge--------	85	Slight		Slight		Well suited	
57C:							
Condorbridge--------	80	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
58C:							
Knappa--------------	85	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Low strength	0.50
						Slope	0.50
59B:							
Chitwood------------	45	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Wetness	0.50
Knappa--------------	40	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
60E:							
Caterl--------------	35	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
Laderly-------------	30	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
Rock outcrop--------	25	Not rated		Not rated		Not rated	

Table 9.--Hazard of Erosion and Suitability for Roads on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
60F:							
Laderly	35	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
Caterl	30	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
Rock outcrop	20	Not rated		Not rated		Not rated	
61F:							
Laderly, south slopes	40	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
Rock outcrop, south slopes	25	Not rated		Not rated		Not rated	
Caterl, south slopes	20	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
62F:							
Rock outcrop	60	Not rated		Not rated		Not rated	
Laderly	25	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
70D:							
Murtip	45	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Low strength	1.00
						Slope	0.50
Caterl	30	Moderate		Moderate		Moderately suited	
		Slope/erodibility	0.50	Slope/erodibility	0.50	Slope	0.50
Laderly	15	Moderate		Moderate		Moderately suited	
		Slope/erodibility	0.50	Slope/erodibility	0.50	Slope	0.50
70E:							
Murtip	40	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Low strength	1.00
Caterl	30	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
Laderly	15	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
71D:							
McMille	50	Moderate		Severe		Moderately suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
Mutt	35	Moderate		Severe		Moderately suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
72D:							
Caterl, clayey	60	Moderate		Moderate		Moderately suited	
		Slope/erodibility	0.50	Slope/erodibility	0.50	Slope	0.50

Table 9.--Hazard of Erosion and Suitability for Roads on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
72D:							
Murtip, clayey	20	Moderate		Moderate		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.50	Low strength	1.00
						Slope	0.50
73A:							
Nehalem, frequent flooding	75	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
74A:							
Nehalem, occasional flooding	80	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
76A:							
Nestucca	90	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
77A:							
Nestucca	55	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
Brenner	40	Slight		Slight		Poorly suited	
						Ponding	1.00
						Flooding	1.00
						Low strength	0.50
						Wetness	0.50
80B:							
Quillamook	80	Slight		Moderate		Poorly suited	
				Slope/erodibility	0.50	Low strength	1.00
81B:							
Quillamook, gravelly substratum	60	Slight		Moderate		Poorly suited	
				Slope/erodibility	0.50	Low strength	1.00
Quillamook	25	Slight		Moderate		Poorly suited	
				Slope/erodibility	0.50	Low strength	1.00
81C:							
Quillamook, gravelly substratum	60	Slight		Severe		Poorly suited	
				Slope/erodibility	0.95	Low strength	1.00
						Slope	0.50
Quillamook	25	Slight		Severe		Poorly suited	
				Slope/erodibility	0.95	Low strength	1.00
						Slope	0.50
89A:							
Udifluvents	40	Slight		Slight		Poorly suited	
						Flooding	1.00
Riverwash	30	Not rated		Not rated		Not rated	
Water	25	Not rated		Not rated		Not rated	

Table 9.--Hazard of Erosion and Suitability for Roads on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
90A:							
Yachats	85	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
91A:							
Gauldy	85	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
92A:							
Yachats	45	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
Gauldy	40	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
93B:							
Gauldy, occasional flooding	50	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
Gauldy, rare flooding	35	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
94B:							
Ginger	35	Slight		Slight		Poorly suited	
						Low strength	1.00
						Wetness	0.50
Quillamook	30	Slight		Moderate		Poorly suited	
				Slope/erodibility	0.50	Low strength	1.00
Urban land	30	Not rated		Not rated		Not rated	
95B:							
Urban land	55	Not rated		Not rated		Not rated	
Quillamook	30	Slight		Moderate		Poorly suited	
				Slope/erodibility	0.50	Low strength	1.00
96B:							
Ginger	40	Slight		Slight		Poorly suited	
						Low strength	1.00
						Wetness	0.50
Hebo	35	Slight		Moderate		Poorly suited	
				Slope/erodibility	0.50	Ponding	1.00
						Wetness	1.00
						Low strength	0.50
99:							
Beaches	95	Not rated		Not rated		Not rated	
100B:							
Urban land	65	Not rated		Not rated		Not rated	

Table 9.--Hazard of Erosion and Suitability for Roads on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
100B:							
Udorthents	25	Slight		Slight		Moderately suited	
						Sandiness	0.50
101B:							
Urban land, flooded	65	Not rated		Not rated		Not rated	
Udorthents, flooded	25	Slight		Slight		Moderately suited	
						Sandiness	0.50
						Flooding	0.50
102A:							
Fluvaquents, diked	60	Slight		Slight		Poorly suited	
						Ponding	1.00
						Flooding	1.00
						Wetness	1.00
						Low strength	0.50
Histosols, diked	35	Slight		Slight		Poorly suited	
						Low strength	1.00
						Ponding	1.00
						Flooding	1.00
						Wetness	1.00
103A:							
Coquille, diked	85	Slight		Slight		Poorly suited	
						Ponding	1.00
						Flooding	1.00
						Wetness	1.00
						Low strength	0.50
104A:							
Coquille, protected	50	Slight		Slight		Poorly suited	
						Ponding	1.00
						Low strength	0.50
						Wetness	0.50
Brenner, protected	30	Slight		Slight		Poorly suited	
						Ponding	1.00
						Low strength	0.50
						Wetness	0.50
Nehalem, protected	15	Slight		Slight		Moderately suited	
						Low strength	0.50
110F:							
Waldport, thin surface	85	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
115A:							
Aquepts	85	Slight		Slight		Poorly suited	
						Ponding	1.00
						Flooding	1.00
						Wetness	1.00
						Low strength	0.50

Table 9.--Hazard of Erosion and Suitability for Roads on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
116A:							
Aquepts, warm	85	Slight		Slight		Poorly suited	
						Ponding	1.00
						Flooding	1.00
						Wetness	1.00
						Low strength	0.50
118B:							
Oxyaquic Hapludands, flood plains	45	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
Alic Hapludands, terraces	30	Slight		Slight		Moderately suited	
						Low strength	0.50
119B:							
Oxyaquic Fulvudands, flood plains	45	Slight		Slight		Poorly suited	
						Low strength	1.00
						Flooding	1.00
Typic Fulvudands, terraces	30	Slight		Slight		Poorly suited	
						Low strength	1.00
120C:							
Alic Hapludands, terraces	60	Slight		Slight		Moderately suited	
						Low strength	0.50
						Landslides	0.01
Alic Hapludands, fans	35	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
						Landslides	0.06
121D:							
Fendall	50	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Low strength	1.00
						Slope	0.50
Munsoncreek	30	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Low strength	1.00
						Slope	0.50
125B:							
Siletz	80	Slight		Moderate		Poorly suited	
				Slope/erodibility	0.50	Low strength	1.00
126B:							
Siletz, warm	80	Slight		Moderate		Poorly suited	
				Slope/erodibility	0.50	Low strength	1.00
127C:							
Condorbridge, warm	80	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50

Table 9.--Hazard of Erosion and Suitability for Roads on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
128B:							
Siletz	45	Slight		Moderate		Poorly suited	
				Slope/erodibility	0.50	Low strength	1.00
Wolfer	40	Slight		Moderate		Poorly suited	
				Slope/erodibility	0.50	Low strength	1.00
144F:							
Harslow, south slopes	40	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Sandiness	0.50
Rock outcrop, south slopes	30	Not rated		Not rated		Not rated	
Klistan, south slopes	20	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
145F:							
Rock outcrop	60	Not rated		Not rated		Not rated	
Harslow	25	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Sandiness	0.50
156F:							
Sevencedars	55	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
Newanna	30	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
157D:							
Caterl, till substratum	80	Moderate		Moderate		Moderately suited	
		Slope/erodibility	0.50	Slope/erodibility	0.50	Slope	0.50
157E:							
Caterl, till substratum	80	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
157F:							
Caterl, till substratum	80	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
158D:							
Sevencedars, till substratum	80	Moderate		Moderate		Moderately suited	
		Slope/erodibility	0.50	Slope/erodibility	0.50	Slope	0.50
158E:							
Sevencedars, till substratum	80	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00

Table 9.--Hazard of Erosion and Suitability for Roads on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
158F:							
Sevencedars, till substratum	85	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
159D:							
Sevencedars, clayey	85	Moderate		Moderate		Moderately suited	
		Slope/erodibility	0.50	Slope/erodibility	0.50	Slope	0.50
161D:							
Sevencedars	35	Moderate		Moderate		Moderately suited	
		Slope/erodibility	0.50	Slope/erodibility	0.50	Slope	0.50
Newanna	30	Moderate		Moderate		Moderately suited	
		Slope/erodibility	0.50	Slope/erodibility	0.50	Slope	0.50
Woodspoint	25	Moderate		Severe		Moderately suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
161E:							
Sevencedars	50	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
Newanna	20	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
Woodspoint	20	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
161F:							
Newanna	35	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
Sevencedars	35	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
Rock outcrop	20	Not rated		Not rated		Not rated	
162D:							
Mosscreek	50	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Low strength	1.00
						Slope	0.50
Fawceter	40	Moderate		Moderate		Moderately suited	
		Slope/erodibility	0.50	Slope/erodibility	0.50	Slope	0.50
162E:							
Mosscreek	50	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Low strength	1.00
Fawceter	45	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
163F:							
Fawceter	40	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00

Table 9.--Hazard of Erosion and Suitability for Roads on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
163F:							
Killam--------------	25	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Sandiness	0.50
Mosscreek-----------	20	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Low strength	1.00
164F:							
Killam--------------	35	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Sandiness	0.50
Fawceter------------	30	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
166F:							
Rock outcrop--------	60	Not rated		Not rated		Not rated	
Killam--------------	25	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Sandiness	0.50
170A:							
Logsden-------------	85	Slight		Slight		Moderately suited	
						Low strength	0.50
170B:							
Logsden-------------	50	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
Nehalem, occasional flooding-----------	40	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
173B:							
Tillamook-----------	45	Slight		Moderate		Poorly suited	
				Slope/erodibility	0.50	Low strength	1.00
Ginger--------------	40	Slight		Slight		Poorly suited	
						Low strength	1.00
						Wetness	0.50
173C:							
Tillamook-----------	45	Slight		Severe		Poorly suited	
				Slope/erodibility	0.95	Low strength	1.00
						Slope	0.50
Ginger--------------	40	Slight		Severe		Poorly suited	
				Slope/erodibility	0.95	Low strength	1.00
						Slope	0.50
						Wetness	0.50
174C:							
Typic Fulvudands, terraces-----------	60	Slight		Moderate		Poorly suited	
				Slope/erodibility	0.50	Low strength	1.00
						Landslides	0.01

Table 9.--Hazard of Erosion and Suitability for Roads on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
174C:							
Typic Fulvudands, fans	35	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
						Landslides	0.06
175D:							
Astoria	80	Moderate		Severe		Moderately suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
176D:							
Preacher	65	Moderate		Severe		Moderately suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
Bohannon	20	Moderate		Severe		Moderately suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
176E:							
Preacher	55	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
Bohannon	30	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
177B:							
Dystrudepts	65	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
Aquepts	30	Slight		Moderate		Poorly suited	
				Slope/erodibility	0.50	Ponding	1.00
						Flooding	1.00
						Wetness	1.00
						Low strength	0.50
178B:							
Fluventic Humic Dystrudepts	45	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
Dystrudepts	25	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
Aquepts	20	Slight		Slight		Poorly suited	
						Ponding	1.00
						Flooding	1.00
						Wetness	1.00
						Low strength	0.50
180D:							
Salander	85	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Low strength	1.00
						Slope	0.50

Table 9.--Hazard of Erosion and Suitability for Roads on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
180E:							
Salander	60	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Low strength	1.00
Necanicum	25	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
180F:							
Salander	50	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Low strength	1.00
Necanicum	20	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
Neskowin	15	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Low strength	1.00
181E:							
Neskowin	60	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Low strength	1.00
Salander	25	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Low strength	1.00
181F:							
Neskowin	35	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Low strength	1.00
Rock outcrop	30	Not rated		Not rated		Not rated	
Necanicum	20	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
182D:							
Neotsu	60	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Low strength	1.00
						Slope	0.50
Salander	30	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Low strength	1.00
						Slope	0.50
183D:							
Winema	55	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Low strength	1.00
						Slope	0.50
Fendall	30	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Low strength	1.00
						Slope	0.50
185F:							
Udorthents, steep	50	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
Rock outcrop	30	Not rated		Not rated		Not rated	

Table 9.--Hazard of Erosion and Suitability for Roads on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
190D:							
Mulkey	85	Slight		Moderate		Poorly suited	
				Slope/erodibility	0.50	Low strength	1.00
						Slope	0.50
191B:							
Siletz	40	Slight		Moderate		Poorly suited	
				Slope/erodibility	0.50	Low strength	1.00
Euchre	35	Slight		Moderate		Poorly suited	
				Slope/erodibility	0.50	Low strength	1.00
						Wetness	0.50
192A:							
Yachats, occasional flooding	85	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
303F:							
Ascar	50	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
Rock outcrop	40	Not rated		Not rated		Not rated	
307F:							
Braun	45	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
Scaponia	35	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
309D:							
Caterl	45	Moderate		Moderate		Moderately suited	
		Slope/erodibility	0.50	Slope/erodibility	0.50	Slope	0.50
Laderly	35	Moderate		Moderate		Moderately suited	
		Slope/erodibility	0.50	Slope/erodibility	0.50	Slope	0.50
309E:							
Caterl	40	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
Laderly	35	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
314A:							
Croquib	85	Slight		Slight		Poorly suited	
						Low strength	1.00
						Ponding	1.00
						Wetness	1.00
322F:							
Harslow	50	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Sandiness	0.50
Kilchis	35	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00

Table 9.--Hazard of Erosion and Suitability for Roads on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
327:							
Dystrudepts, steep--	95	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
328:							
Dystrudepts---------	45	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Low strength	0.50
						Slope	0.50
Humaquepts, isomesic	40	Slight		Moderate		Poorly suited	
				Slope/erodibility	0.50	Ponding	1.00
						Wetness	1.00
						Low strength	0.50
329F:							
Kilchis-------------	45	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
Rock outcrop--------	35	Not rated		Not rated		Not rated	
338F:							
Laderly-------------	40	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
Rock outcrop--------	35	Not rated		Not rated		Not rated	
342D:							
McMille-------------	85	Moderate		Severe		Moderately suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
345A:							
Mues----------------	85	Slight		Slight		Moderately suited	
						Low strength	0.50
346D:							
Murtip--------------	75	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Low strength	1.00
						Slope	0.50
347E:							
Murtip--------------	45	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Low strength	1.00
Caterl--------------	35	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
350E:							
Necanicum-----------	45	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
Ascar---------------	30	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
356D:							
Rinearson-----------	85	Moderate		Severe		Moderately suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50

Table 9.--Hazard of Erosion and Suitability for Roads on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
357E:							
Scaponia------------	50	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
Braun---------------	35	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
358D:							
Skipanon------------	80	Moderate		Severe		Moderately suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	0.50
358E:							
Skipanon------------	80	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
359D:							
Svensen-------------	85	Moderate		Severe		Moderately suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
359E:							
Svensen-------------	85	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
363D:							
Tolke---------------	80	Moderate		Severe		Moderately suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
371C:							
Walluski------------	85	Moderate		Severe		Moderately suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Low strength	0.50
						Slope	0.50
403E:							
Astoria-------------	80	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
420E:							
Hembre--------------	85	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
420F:							
Hembre--------------	85	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
425E:							
Klickitat-----------	80	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
433D:							
Melby---------------	80	Moderate		Severe		Moderately suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50

Table 9.--Hazard of Erosion and Suitability for Roads on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
433E:							
Melby----------------	80	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
439E:							
Tolke----------------	70	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
501D:							
Apt------------------	55	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
McDuff---------------	30	Moderate		Severe		Moderately suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
501E:							
Apt------------------	50	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
McDuff---------------	30	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
517A:							
Euchre---------------	85	Slight		Slight		Poorly suited	
						Low strength	1.00
						Wetness	0.50
519D:							
Fendall--------------	50	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Low strength	1.00
						Slope	1.00
Winema---------------	30	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Low strength	1.00
						Slope	1.00
532D:							
Klootchie------------	45	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Low strength	1.00
						Slope	0.50
Neotsu---------------	35	Moderate		Moderate		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.50	Low strength	1.00
						Slope	0.50
532E:							
Klootchie------------	50	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Low strength	1.00
Neotsu---------------	30	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Low strength	1.00

Table 9.--Hazard of Erosion and Suitability for Roads on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
543F:							
Neotsu--------------	40	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Low strength	1.00
Necanicum-----------	35	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
552F:							
Reedsport-----------	50	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Low strength	1.00
Tolovana------------	30	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Low strength	1.00
555D:							
Templeton-----------	55	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Low strength	1.00
						Slope	0.50
Fendall-------------	30	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Low strength	1.00
						Slope	0.50
556D:							
Tolovana------------	45	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Low strength	1.00
						Slope	0.50
Reedsport-----------	35	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Low strength	1.00
						Slope	0.50
556E:							
Tolovana------------	50	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Low strength	1.00
Reedsport-----------	35	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Low strength	1.00
611B:							
Dystrudepts, warm---	50	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
Aquepts, warm-------	30	Slight		Moderate		Poorly suited	
				Slope/erodibility	0.50	Ponding	1.00
						Flooding	1.00
						Wetness	1.00
						Low strength	0.50
Humaquepts, warm----	15	Slight		Moderate		Poorly suited	
				Slope/erodibility	0.50	Ponding	1.00
						Wetness	1.00
						Low strength	0.50
W:							
Water---------------	100	Not rated		Not rated		Not rated	

Table 10.--Forestland Planting and Harvesting

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
1A:							
Brenner	85	Well suited		Well suited		Poorly suited	
						Wetness	1.00
						Low strength	0.50
2A:							
Fluvaquents	60	Poorly suited		Poorly suited		Poorly suited	
		Wetness	0.75	Wetness	0.75	Wetness	1.00
						Low strength	0.50
Histosols	35	Poorly suited		Poorly suited		Poorly suited	
		Wetness	0.75	Wetness	0.75	Low strength	1.00
						Wetness	1.00
3A:							
Coquille	85	Poorly suited		Poorly suited		Poorly suited	
		Wetness	0.75	Wetness	0.75	Wetness	1.00
						Low strength	0.50
4D:							
Ginsberg	85	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
4E:							
Ginsberg	60	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
						Low strength	0.50
Klistan	20	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75		
5E:							
Ferrelo	90	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
						Low strength	0.50
6D:							
Horseprairie	65	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
Ferrelo	25	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
7:							
Dune land	80	Not rated		Not rated		Not rated	
8A:							
Depoe	85	Moderately suited		Poorly suited		Poorly suited	
		Wetness	0.50	Wetness	0.75	Wetness	1.00
						Low strength	0.50
9B:							
Waldport	85	Well suited		Well suited		Well suited	

Table 10.--Forestland Planting and Harvesting--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
9C:							
Waldport	85	Well suited		Moderately suited		Well suited	
				Slope	0.50		
9D:							
Waldport	85	Well suited		Unsuited		Moderately suited	
				Slope	1.00	Slope	0.50
9E:							
Waldport	85	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
10B:							
Waldport, thin surface	85	Well suited		Well suited		Well suited	
10C:							
Waldport, thin surface	90	Well suited		Moderately suited		Well suited	
				Slope	0.50		
10E:							
Waldport, thin surface	85	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
11B:							
Netarts	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
11C:							
Netarts	90	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
11D:							
Netarts	90	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
11E:							
Netarts	90	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
						Low strength	0.50
12B:							
Yaquina	85	Well suited		Well suited		Poorly suited	
						Wetness	1.00
13B:							
Waldport, thin surface	70	Well suited		Well suited		Well suited	
Heceta	25	Moderately suited		Poorly suited		Poorly suited	
		Wetness	0.50	Wetness	0.75	Wetness	1.00
14A:							
Heceta	85	Moderately suited		Poorly suited		Poorly suited	
		Wetness	0.50	Wetness	0.75	Wetness	1.00

Table 10.--Forestland Planting and Harvesting--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
15B:							
Netarts	50	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Yaquina	45	Well suited		Well suited		Poorly suited	
						Wetness	1.00
16F:							
Caterl	45	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75		
Laderly	25	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75		
Murtip	20	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
						Low strength	1.00
17B:							
Chitwood	50	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Hebo	35	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
18B:							
Chitwood	80	Well suited		Well suited		Moderately suited	
						Low strength	0.50
18C:							
Chitwood	80	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
19E:							
Klootchie	85	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Low strength	1.00
						Slope	1.00
20D:							
Klootchie	60	Well suited		Poorly suited		Poorly suited	
				Slope	0.75	Low strength	1.00
Necanicum	25	Moderately suited		Poorly suited		Well suited	
		Rock fragments	0.50	Slope	0.75		
				Rock fragments	0.75		
20E:							
Klootchie	55	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Low strength	1.00
						Slope	1.00
Necanicum	30	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75		

Table 10.--Forestland Planting and Harvesting--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
21F:							
Necanicum-----------	40	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75		
Ascar---------------	25	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75		
Klootchie-----------	20	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
						Low strength	1.00
22F:							
Ascar---------------	35	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75		
Necanicum-----------	30	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75		
Rock outcrop--------	20	Not rated		Not rated		Not rated	
23F:							
Rock outcrop--------	60	Not rated		Not rated		Not rated	
Ascar---------------	25	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75		
24C:							
Lebam---------------	85	Well suited		Moderately suited		Poorly suited	
				Slope	0.50	Low strength	1.00
24D:							
Lebam---------------	85	Well suited		Poorly suited		Poorly suited	
				Slope	0.75	Low strength	1.00
25E:							
Lebam---------------	60	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Low strength	1.00
						Slope	1.00
Necanicum-----------	20	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75		
26F:							
Lebam---------------	55	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
						Low strength	1.00
Necanicum-----------	25	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75		
28D:							
Templeton-----------	60	Well suited		Poorly suited		Poorly suited	
				Slope	0.75	Low strength	1.00

Table 10.--Forestland Planting and Harvesting--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
28D:							
Necanicum-----------	25	Moderately suited		Poorly suited		Well suited	
		Rock fragments	0.50	Slope	0.75		
				Rock fragments	0.75		
29D:							
Templeton-----------	50	Well suited		Poorly suited		Poorly suited	
				Slope	0.75	Low strength	1.00
Klootchie-----------	35	Well suited		Poorly suited		Poorly suited	
				Slope	0.75	Low strength	1.00
29E:							
Templeton-----------	45	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Low strength	1.00
						Slope	1.00
Klootchie-----------	40	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Low strength	1.00
						Slope	1.00
30D:							
Templeton-----------	85	Well suited		Poorly suited		Poorly suited	
				Slope	0.75	Low strength	1.00
30E:							
Templeton-----------	60	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Low strength	1.00
						Slope	1.00
Ecola---------------	20	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Low strength	1.00
				Rock fragments	0.50	Slope	1.00
30F:							
Templeton-----------	45	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
						Low strength	1.00
Ecola---------------	40	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50	Low strength	1.00
31D:							
Tolovana------------	45	Well suited		Poorly suited		Poorly suited	
				Slope	0.75	Low strength	1.00
Templeton-----------	40	Well suited		Poorly suited		Poorly suited	
				Slope	0.75	Low strength	1.00
31E:							
Tolovana------------	50	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Low strength	1.00
						Slope	1.00
Templeton-----------	25	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Low strength	1.00
						Slope	1.00

Table 10.--Forestland Planting and Harvesting--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
32D:							
Munsoncreek	65	Well suited		Poorly suited		Poorly suited	
				Slope	0.75	Low strength	1.00
Flowerpot	20	Moderately suited		Poorly suited		Poorly suited	
		Stickiness; high plasticity index	0.50	Slope	0.75	Low strength	1.00
				Stickiness; high plasticity index	0.50		
32E:							
Munsoncreek	65	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Low strength	1.00
						Slope	1.00
Templeton	20	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Low strength	1.00
						Slope	1.00
33D:							
Tolovana	85	Well suited		Poorly suited		Poorly suited	
				Slope	0.75	Low strength	1.00
37D:							
Templeton	45	Well suited		Poorly suited		Poorly suited	
				Slope	0.75	Low strength	1.00
Skipanon	30	Well suited		Poorly suited		Well suited	
				Slope	0.75		
				Rock fragments	0.50		
37E:							
Templeton	55	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Low strength	1.00
						Slope	1.00
Skipanon	30	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50		
38E:							
Templeton	50	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Low strength	1.00
						Slope	1.00
Necanicum	35	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75		
43F:							
Klistan	35	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75		
Harslow	30	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Sandiness	0.50	Rock fragments	1.00	Sandiness	0.50
		Rock fragments	0.50	Sandiness	0.50		
Hemcross	25	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
						Low strength	0.50

Table 10.--Forestland Planting and Harvesting--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
44E:							
Klistan	35	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75		
Harslow	30	Moderately suited		Unsuited		Poorly suited	
		Sandiness	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	1.00	Sandiness	0.50
		Slope	0.50	Sandiness	0.50		
Rock outcrop	20	Not rated		Not rated		Not rated	
44F:							
Harslow	35	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Sandiness	0.50	Rock fragments	1.00	Sandiness	0.50
		Rock fragments	0.50	Sandiness	0.50		
Klistan	30	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75		
Rock outcrop	20	Not rated		Not rated		Not rated	
45B:							
Hebo	80	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
48D:							
Hemcross	60	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
Klistan	25	Moderately suited		Poorly suited		Well suited	
		Rock fragments	0.50	Slope	0.75		
				Rock fragments	0.75		
48E:							
Hemcross	50	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
						Low strength	0.50
Klistan	35	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75		
50B:							
Walluski	80	Well suited		Well suited		Moderately suited	
						Low strength	0.50
51B:							
Walluski	45	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Chitwood	40	Well suited		Well suited		Moderately suited	
						Low strength	0.50
51C:							
Walluski	45	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50

Table 10.--Forestland Planting and Harvesting--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
51C:							
Chitwood	30	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
54B:							
Knappa	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
55A:							
Histosols	55	Poorly suited		Poorly suited		Poorly suited	
		Wetness	0.75	Wetness	0.75	Low strength	1.00
						Wetness	1.00
Water	45	Not rated		Not rated		Not rated	
56B:							
Wolfer	80	Well suited		Well suited		Poorly suited	
						Low strength	1.00
56C:							
Wolfer	85	Well suited		Moderately suited		Poorly suited	
				Slope	0.50	Low strength	1.00
57B:							
Condorbridge	85	Well suited		Moderately suited		Well suited	
				Rock fragments	0.50		
57C:							
Condorbridge	80	Well suited		Moderately suited		Well suited	
				Rock fragments	0.50		
				Slope	0.50		
58C:							
Knappa	85	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
59B:							
Chitwood	45	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Knappa	40	Well suited		Well suited		Moderately suited	
						Low strength	0.50
60E:							
Caterl	35	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75		
Laderly	30	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75		
Rock outcrop	25	Not rated		Not rated		Not rated	
60F:							
Laderly	35	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75		

Table 10.--Forestland Planting and Harvesting--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
60F:							
Caterl	30	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75		
Rock outcrop	20	Not rated		Not rated		Not rated	
61F:							
Laderly, south slopes	40	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75		
Rock outcrop, south slopes	25	Not rated		Not rated		Not rated	
Caterl, south slopes	20	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75		
62F:							
Rock outcrop	60	Not rated		Not rated		Not rated	
Laderly	25	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75		
70D:							
Murtip	45	Well suited		Poorly suited		Poorly suited	
				Slope	0.75	Low strength	1.00
Caterl	30	Moderately suited		Poorly suited		Well suited	
		Rock fragments	0.50	Slope	0.75		
				Rock fragments	0.75		
Laderly	15	Moderately suited		Poorly suited		Well suited	
		Rock fragments	0.50	Slope	0.75		
				Rock fragments	0.75		
70E:							
Murtip	40	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Low strength	1.00
						Slope	1.00
Caterl	30	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75		
Laderly	15	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75		
71D:							
McMille	50	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
Mutt	35	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50

Table 10.--Forestland Planting and Harvesting--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
72D:							
Caterl, clayey	60	Moderately suited		Poorly suited		Well suited	
		Rock fragments	0.50	Rock fragments	0.75		
				Slope	0.75		
Murtip, clayey	20	Moderately suited		Poorly suited		Poorly suited	
		Rock fragments	0.50	Slope	0.75	Low strength	1.00
				Rock fragments	0.50		
73A:							
Nehalem, frequent flooding	75	Well suited		Well suited		Moderately suited	
						Low strength	0.50
74A:							
Nehalem, occasional flooding	80	Well suited		Well suited		Moderately suited	
						Low strength	0.50
76A:							
Nestucca	90	Well suited		Well suited		Moderately suited	
						Low strength	0.50
						Wetness	0.50
77A:							
Nestucca	55	Well suited		Well suited		Moderately suited	
						Low strength	0.50
						Wetness	0.50
Brenner	40	Well suited		Well suited		Poorly suited	
						Wetness	1.00
						Low strength	0.50
80B:							
Quillamook	80	Well suited		Well suited		Poorly suited	
						Low strength	1.00
81B:							
Quillamook, gravelly substratum	60	Well suited		Well suited		Poorly suited	
						Low strength	1.00
Quillamook	25	Well suited		Well suited		Poorly suited	
						Low strength	1.00
81C:							
Quillamook, gravelly substratum	60	Well suited		Moderately suited		Poorly suited	
				Slope	0.50	Low strength	1.00
Quillamook	25	Well suited		Moderately suited		Poorly suited	
				Slope	0.50	Low strength	1.00
89A:							
Udifluvents	40	Well suited		Well suited		Well suited	
Riverwash	30	Not rated		Not rated		Not rated	
Water	25	Not rated		Not rated		Not rated	

Table 10.--Forestland Planting and Harvesting--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
90A:							
Yachats	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
91A:							
Gauldy	85	Well suited		Moderately suited		Moderately suited	
				Rock fragments	0.50	Low strength	0.50
92A:							
Yachats	45	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Gauldy	40	Well suited		Moderately suited		Moderately suited	
				Rock fragments	0.50	Low strength	0.50
93B:							
Gauldy, occasional flooding	50	Well suited		Moderately suited		Moderately suited	
				Rock fragments	0.50	Low strength	0.50
Gauldy, rare flooding	35	Well suited		Moderately suited		Moderately suited	
				Rock fragments	0.50	Low strength	0.50
94B:							
Ginger	35	Well suited		Well suited		Poorly suited	
						Low strength	1.00
Quillamook	30	Well suited		Well suited		Poorly suited	
						Low strength	1.00
Urban land	30	Not rated		Not rated		Not rated	
95B:							
Urban land	55	Not rated		Not rated		Not rated	
Quillamook	30	Well suited		Well suited		Poorly suited	
						Low strength	1.00
96B:							
Ginger	40	Well suited		Well suited		Poorly suited	
						Low strength	1.00
Hebo	35	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
99:							
Beaches	95	Not rated		Not rated		Not rated	
100B:							
Urban land	65	Not rated		Not rated		Not rated	
Udorthents	25	Moderately suited		Poorly suited		Moderately suited	
		Rock fragments	0.50	Rock fragments	0.75	Sandiness	0.50
		Sandiness	0.50	Sandiness	0.50		
101B:							
Urban land, flooded	65	Not rated		Not rated		Not rated	

Table 10.--Forestland Planting and Harvesting--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
101B:							
Udorthents, flooded	25	Moderately suited		Poorly suited		Moderately suited	
		Rock fragments	0.50	Rock fragments	0.75	Sandiness	0.50
		Sandiness	0.50	Sandiness	0.50	Wetness	0.50
102A:							
Fluvaquents, diked--	60	Well suited		Well suited		Poorly suited	
						Wetness	1.00
						Low strength	0.50
Histosols, diked----	35	Well suited		Well suited		Poorly suited	
						Low strength	1.00
						Wetness	1.00
103A:							
Coquille, diked-----	85	Well suited		Well suited		Poorly suited	
						Wetness	1.00
						Low strength	0.50
104A:							
Coquille, protected	50	Well suited		Well suited		Moderately suited	
						Low strength	0.50
						Wetness	0.50
Brenner, protected--	30	Well suited		Well suited		Moderately suited	
						Low strength	0.50
						Wetness	0.50
Nehalem, protected--	15	Well suited		Well suited		Moderately suited	
						Low strength	0.50
110F:							
Waldport, thin surface------------	85	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
115A:							
Aquepts-------------	85	Moderately suited		Poorly suited		Poorly suited	
		Wetness	0.50	Wetness	0.75	Wetness	1.00
						Low strength	0.50
116A:							
Aquepts, warm-------	85	Well suited		Well suited		Poorly suited	
						Wetness	1.00
						Low strength	0.50
118B:							
Oxyaquic Hapludands, flood plains-------------	45	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Alic Hapludands, terraces-----------	30	Well suited		Well suited		Moderately suited	
						Low strength	0.50
119B:							
Oxyaquic Fulvudands, flood plains-------------	45	Well suited		Well suited		Poorly suited	
						Low strength	1.00

Table 10.--Forestland Planting and Harvesting--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
119B:							
Typic Fulvudands, terraces	30	Well suited		Well suited		Poorly suited	
						Low strength	1.00
120C:							
Alic Hapludands, terraces	60	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
Alic Hapludands, fans	35	Moderately suited		Poorly suited		Well suited	
		Rock fragments	0.50	Rock fragments	0.75		
				Slope	0.50		
121D:							
Fendall	50	Well suited		Poorly suited		Poorly suited	
				Slope	0.75	Low strength	1.00
Munsoncreek	30	Well suited		Poorly suited		Poorly suited	
				Slope	0.75	Low strength	1.00
125B:							
Siletz	80	Well suited		Well suited		Poorly suited	
						Low strength	1.00
126B:							
Siletz, warm	80	Well suited		Well suited		Poorly suited	
						Low strength	1.00
127C:							
Condorbridge, warm	80	Well suited		Moderately suited		Well suited	
				Rock fragments	0.50		
				Slope	0.50		
128B:							
Siletz	45	Well suited		Well suited		Poorly suited	
						Low strength	1.00
Wolfer	40	Well suited		Well suited		Poorly suited	
						Low strength	1.00
144F:							
Harslow, south slopes	40	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Sandiness	0.50	Rock fragments	1.00	Sandiness	0.50
		Rock fragments	0.50	Sandiness	0.50		
Rock outcrop, south slopes	30	Not rated		Not rated		Not rated	
Klistan, south slopes	20	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75		
145F:							
Rock outcrop	60	Not rated		Not rated		Not rated	

Table 10.--Forestland Planting and Harvesting--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
145F:							
Harslow-------------	25	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Sandiness	0.50	Rock fragments	1.00	Sandiness	0.50
		Rock fragments	0.50	Sandiness	0.50		
156F:							
Sevencedars---------	55	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.50		
Newanna-------------	30	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75		
157D:							
Caterl, till substratum---------	80	Moderately suited		Poorly suited		Well suited	
		Rock fragments	0.50	Rock fragments	0.75		
				Slope	0.75		
157E:							
Caterl, till substratum---------	80	Moderately suited		Unsuited		Poorly suited	
		Rock fragments	0.50	Slope	1.00	Slope	1.00
		Slope	0.50	Rock fragments	0.75		
157F:							
Caterl, till substratum---------	80	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75		
158D:							
Sevencedars, till substratum---------	80	Moderately suited		Poorly suited		Well suited	
		Rock fragments	0.50	Slope	0.75		
				Rock fragments	0.75		
158E:							
Sevencedars, till substratum---------	80	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75		
158F:							
Sevencedars, till substratum---------	85	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75		
159D:							
Sevencedars, clayey	85	Moderately suited		Poorly suited		Well suited	
		Rock fragments	0.50	Slope	0.75		
				Rock fragments	0.75		
161D:							
Sevencedars---------	35	Moderately suited		Poorly suited		Well suited	
		Rock fragments	0.50	Slope	0.75		
				Rock fragments	0.50		

Table 10.--Forestland Planting and Harvesting--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
161D:							
Newanna	30	Moderately suited		Poorly suited		Well suited	
		Rock fragments	0.50	Slope	0.75		
				Rock fragments	0.75		
Woodspoint	25	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
161E:							
Sevencedars	50	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.50		
Newanna	20	Moderately suited		Unsuited		Poorly suited	
		Rock fragments	0.50	Slope	1.00	Slope	1.00
		Slope	0.50	Rock fragments	0.75		
Woodspoint	20	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
						Low strength	0.50
161F:							
Newanna	35	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75		
Sevencedars	35	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.50		
Rock outcrop	20	Not rated		Not rated		Not rated	
162D:							
Mosscreek	50	Well suited		Poorly suited		Poorly suited	
				Slope	0.75	Low strength	1.00
Fawceter	40	Moderately suited		Poorly suited		Well suited	
		Rock fragments	0.50	Slope	0.75		
				Rock fragments	0.50		
162E:							
Mosscreek	50	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Low strength	1.00
						Slope	1.00
Fawceter	45	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.50		
163F:							
Fawceter	40	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.50		
Killam	25	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Sandiness	0.50	Rock fragments	0.75	Sandiness	0.50
		Rock fragments	0.50	Sandiness	0.50		

Table 10.--Forestland Planting and Harvesting--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
163F:							
Mosscreek	20	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
						Low strength	1.00
164F:							
Killam	35	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Sandiness	0.50	Rock fragments	0.75	Sandiness	0.50
		Rock fragments	0.50	Sandiness	0.50		
Fawceter	30	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.50		
Rock outcrop	20	Not rated		Not rated		Not rated	
166F:							
Rock outcrop	60	Not rated		Not rated		Not rated	
Killam	25	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Sandiness	0.50	Rock fragments	0.75	Sandiness	0.50
		Rock fragments	0.50	Sandiness	0.50		
170A:							
Logsden	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
170B:							
Logsden	50	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Nehalem, occasional flooding	40	Well suited		Well suited		Moderately suited	
						Low strength	0.50
173B:							
Tillamook	45	Well suited		Well suited		Poorly suited	
						Low strength	1.00
Ginger	40	Well suited		Well suited		Poorly suited	
						Low strength	1.00
173C:							
Tillamook	45	Well suited		Moderately suited		Poorly suited	
				Slope	0.50	Low strength	1.00
Ginger	40	Well suited		Moderately suited		Poorly suited	
				Slope	0.50	Low strength	1.00
174C:							
Typic Fulvudands, terraces	60	Well suited		Moderately suited		Poorly suited	
				Slope	0.50	Low strength	1.00
Typic Fulvudands, fans	35	Well suited		Moderately suited		Well suited	
				Rock fragments	0.50		
				Slope	0.50		

Table 10.--Forestland Planting and Harvesting--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
175D:							
Astoria	80	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
176D:							
Preacher	65	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
						Slope	0.50
Bohannon	20	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
				Rock fragments	0.50	Slope	0.50
176E:							
Preacher	55	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
						Low strength	0.50
Bohannon	30	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50	Low strength	0.50
177B:							
Dystrudepts	65	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
Aquepts	30	Moderately suited		Poorly suited		Poorly suited	
		Stickiness; high plasticity index	0.50	Wetness	0.75	Wetness	1.00
		Wetness	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
178B:							
Fluventic Humic Dystrudepts	45	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Dystrudepts	25	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Aquepts	20	Moderately suited		Poorly suited		Poorly suited	
		Wetness	0.50	Wetness	0.75	Wetness	1.00
						Low strength	0.50
180D:							
Salander	85	Well suited		Poorly suited		Poorly suited	
				Slope	0.75	Low strength	1.00
180E:							
Salander	60	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Low strength	1.00
						Slope	1.00
Necanicum	25	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75		
180F:							
Salander	50	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
						Low strength	1.00

Table 10.--Forestland Planting and Harvesting--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
180F:							
Necanicum	20	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75		
Neskowin	15	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
						Low strength	1.00
181E:							
Neskowin	60	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Low strength	1.00
						Slope	1.00
Salander	25	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Low strength	1.00
						Slope	1.00
181F:							
Neskowin	35	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
						Low strength	1.00
Rock outcrop	30	Not rated		Not rated		Not rated	
Necanicum	20	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75		
182D:							
Neotsu	60	Well suited		Poorly suited		Poorly suited	
				Slope	0.75	Low strength	1.00
				Rock fragments	0.50		
Salander	30	Well suited		Poorly suited		Poorly suited	
				Slope	0.75	Low strength	1.00
183D:							
Winema	55	Well suited		Poorly suited		Poorly suited	
				Slope	0.75	Low strength	1.00
Fendall	30	Well suited		Poorly suited		Poorly suited	
				Slope	0.75	Low strength	1.00
185F:							
Udorthents, steep	50	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50		
Rock outcrop	30	Not rated		Not rated		Not rated	
190D:							
Mulkey	85	Well suited		Moderately suited		Poorly suited	
				Slope	0.50	Low strength	1.00
				Rock fragments	0.50		
191B:							
Siletz	40	Well suited		Well suited		Poorly suited	
						Low strength	1.00

Table 10.--Forestland Planting and Harvesting--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
191B:							
Euchre----------------	35	Well suited		Well suited		Poorly suited	
						Low strength	1.00
192A:							
Yachats, occasional flooding-----------	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
303F:							
Ascar---------------	50	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75		
Rock outcrop--------	40	Not rated		Not rated		Not rated	
307F:							
Braun---------------	45	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50	Low strength	0.50
Scaponia------------	35	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50	Low strength	0.50
309D:							
Caterl--------------	45	Moderately suited		Poorly suited		Well suited	
		Rock fragments	0.50	Rock fragments	0.75		
				Slope	0.75		
Laderly-------------	35	Moderately suited		Poorly suited		Well suited	
		Rock fragments	0.50	Rock fragments	0.75		
				Slope	0.75		
309E:							
Caterl--------------	40	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75		
Laderly-------------	35	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75		
314A:							
Croquib-------------	85	Well suited		Well suited		Poorly suited	
						Low strength	1.00
322F:							
Harslow-------------	50	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Sandiness	0.50	Rock fragments	1.00	Sandiness	0.50
		Rock fragments	0.50	Sandiness	0.50		
Kilchis-------------	35	Moderately suited		Unsuited		Poorly suited	
		Rock fragments	0.50	Slope	1.00	Slope	1.00
		Slope	0.50	Rock fragments	1.00		
327:							
Dystrudepts, steep--	95	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
						Low strength	0.50

Table 10.--Forestland Planting and Harvesting--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
328:							
Dystrudepts	45	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
Humaquepts, isomesic	40	Well suited		Well suited		Poorly suited	
						Wetness	1.00
						Low strength	0.50
329F:							
Kilchis	45	Moderately suited		Unsuited		Poorly suited	
		Rock fragments	0.50	Slope	1.00	Slope	1.00
		Slope	0.50	Rock fragments	1.00		
Rock outcrop	35	Not rated		Not rated		Not rated	
338F:							
Laderly	40	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75		
Rock outcrop	35	Not rated		Not rated		Not rated	
342D:							
McMille	85	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
345A:							
Mues	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
346D:							
Murtip	75	Well suited		Poorly suited		Poorly suited	
				Slope	0.75	Low strength	1.00
347E:							
Murtip	45	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Low strength	1.00
						Slope	1.00
Caterl	35	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75		
350E:							
Necanicum	45	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75		
Ascar	30	Moderately suited		Unsuited		Poorly suited	
		Rock fragments	0.50	Slope	1.00	Slope	1.00
		Slope	0.50	Rock fragments	0.75		
356D:							
Rinearson	85	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
357E:							
Scaponia	50	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50	Low strength	0.50

Table 10.--Forestland Planting and Harvesting--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
357E:							
Braun	35	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50	Low strength	0.50
358D:							
Skipanon	80	Well suited		Poorly suited		Well suited	
				Slope	0.75		
				Rock fragments	0.50		
358E:							
Skipanon	80	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50		
359D:							
Svensen	85	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
359E:							
Svensen	85	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
						Low strength	0.50
363D:							
Tolke	80	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
371C:							
Walluski	85	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
403E:							
Astoria	80	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
						Low strength	0.50
420E:							
Hembre	85	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
						Low strength	0.50
420F:							
Hembre	85	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
						Low strength	0.50
425E:							
Klickitat	80	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75		
433D:							
Melby	80	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
433E:							
Melby	80	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
						Low strength	0.50

Table 10.--Forestland Planting and Harvesting--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
439E:							
Tolke	70	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
						Low strength	0.50
501D:							
Apt	55	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
				Stickiness; high plasticity index	0.50		
McDuff	30	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
501E:							
Apt	50	Moderately suited		Unsuited		Poorly suited	
		Stickiness; high plasticity index	0.50	Slope	1.00	Slope	1.00
		Slope	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
McDuff	30	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
						Low strength	0.50
517A:							
Euchre	85	Well suited		Well suited		Poorly suited	
						Low strength	1.00
519D:							
Fendall	50	Well suited		Poorly suited		Poorly suited	
				Slope	0.75	Low strength	1.00
						Slope	0.50
Winema	30	Well suited		Poorly suited		Poorly suited	
				Slope	0.75	Low strength	1.00
						Slope	0.50
532D:							
Klootchie	45	Well suited		Moderately suited		Poorly suited	
				Slope	0.50	Low strength	1.00
Neotsu	35	Well suited		Moderately suited		Poorly suited	
				Slope	0.50	Low strength	1.00
				Rock fragments	0.50		
532E:							
Klootchie	50	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Low strength	1.00
						Slope	1.00
Neotsu	30	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Low strength	1.00
				Rock fragments	0.50	Slope	1.00
543F:							
Neotsu	40	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50	Low strength	1.00

Table 10.--Forestland Planting and Harvesting--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
543F:							
Necanicum-----------	35	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75		
552F:							
Reedsport-----------	50	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50	Low strength	1.00
Tolovana------------	30	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
						Low strength	1.00
555D:							
Templeton-----------	55	Well suited		Poorly suited		Poorly suited	
				Slope	0.75	Low strength	1.00
						Slope	0.50
Fendall-------------	30	Well suited		Poorly suited		Poorly suited	
				Slope	0.75	Low strength	1.00
						Slope	0.50
556D:							
Tolovana------------	45	Well suited		Poorly suited		Poorly suited	
				Slope	0.75	Low strength	1.00
Reedsport-----------	35	Well suited		Poorly suited		Poorly suited	
				Slope	0.75	Low strength	1.00
				Rock fragments	0.50		
556E:							
Tolovana------------	50	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Low strength	1.00
						Slope	1.00
Reedsport-----------	35	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Low strength	1.00
				Rock fragments	0.50	Slope	1.00
611B:							
Dystrudepts, warm---	50	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
Aquepts, warm-------	30	Moderately suited		Poorly suited		Poorly suited	
		Stickiness; high plasticity index	0.50	Wetness	0.75	Wetness	1.00
		Wetness	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
Humaquepts, warm----	15	Well suited		Well suited		Poorly suited	
						Wetness	1.00
						Low strength	0.50
W:							
Water---------------	100	Not rated		Not rated		Not rated	

Table 11.--Forestland Site Preparation

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
1A:					
Brenner	85	Well suited		Unsuited	
				Wetness	1.00
2A:					
Fluvaquents	60	Poorly suited		Unsuited	
		Wetness	0.75	Wetness	1.00
Histosols	35	Poorly suited		Unsuited	
		Wetness	0.75	Wetness	1.00
3A:					
Coquille	85	Poorly suited		Unsuited	
		Wetness	0.75	Wetness	1.00
4D:					
Ginsberg	85	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
4E:					
Ginsberg	60	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
Klistan	20	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		
5E:					
Ferrelo	90	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
6D:					
Horseprairie	65	Well suited		Well suited	
Ferrelo	25	Well suited		Well suited	
7:					
Dune land	80	Not rated		Not rated	
8A:					
Depoe	85	Poorly suited		Unsuited	
		Wetness	0.50	Wetness	1.00
9B:					
Waldport	85	Well suited		Well suited	
9C:					
Waldport	85	Well suited		Well suited	
9D:					
Waldport	85	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50

Table 11.--Forestland Site Preparation--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
9E:					
Waldport	85	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
10B:					
Waldport, thin surface	85	Well suited		Well suited	
10C:					
Waldport, thin surface	90	Well suited		Well suited	
10E:					
Waldport, thin surface	85	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
11B:					
Netarts	85	Well suited		Well suited	
11C:					
Netarts	90	Well suited		Well suited	
11D:					
Netarts	90	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
11E:					
Netarts	90	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
12B:					
Yaquina	85	Well suited		Unsuited	
				Wetness	1.00
13B:					
Waldport, thin surface	70	Well suited		Well suited	
Heceta	25	Poorly suited		Unsuited	
		Wetness	0.50	Wetness	1.00
14A:					
Heceta	85	Poorly suited		Unsuited	
		Wetness	0.50	Wetness	1.00
15B:					
Netarts	50	Well suited		Well suited	
Yaquina	45	Well suited		Unsuited	
				Wetness	1.00
16F:					
Caterl	45	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		

Table 11.--Forestland Site Preparation--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
16F:					
Laderly	25	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50	Restrictive layer	0.50
				Rock fragments	0.50
Murtip	20	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
17B:					
Chitwood	50	Well suited		Well suited	
Hebo	35	Well suited		Well suited	
18B:					
Chitwood	80	Well suited		Well suited	
18C:					
Chitwood	80	Well suited		Well suited	
19E:					
Klootchie	85	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
20D:					
Klootchie	60	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Necanicum	25	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
		Rock fragments	0.50		
20E:					
Klootchie	55	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
Necanicum	30	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		
21F:					
Necanicum	40	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		
Ascar	25	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.50
Klootchie	20	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
22F:					
Ascar	35	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.50
Necanicum	30	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		

Table 11.--Forestland Site Preparation--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
22F:					
Rock outcrop	20	Not rated		Not rated	
23F:					
Rock outcrop	60	Not rated		Not rated	
Ascar	25	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.50
24C:					
Lebam	85	Well suited		Well suited	
24D:					
Lebam	85	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
25E:					
Lebam	60	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
Necanicum	20	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		
26F:					
Lebam	55	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
Necanicum	25	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		
28D:					
Templeton	60	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Necanicum	25	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
		Rock fragments	0.50		
29D:					
Templeton	50	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Klootchie	35	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
29E:					
Templeton	45	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
Klootchie	40	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
30D:					
Templeton	85	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50

Table 11.--Forestland Site Preparation--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
30E:					
Templeton-----------	60	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
Ecola---------------	20	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
30F:					
Templeton-----------	45	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
Ecola---------------	40	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
31D:					
Tolovana------------	45	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Templeton-----------	40	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
31E:					
Tolovana------------	50	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
Templeton-----------	25	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
32D:					
Munsoncreek---------	65	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Flowerpot-----------	20	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
32E:					
Munsoncreek---------	65	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
Templeton-----------	20	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
33D:					
Tolovana------------	85	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
37D:					
Templeton-----------	45	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Skipanon------------	30	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
37E:					
Templeton-----------	55	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
Skipanon------------	30	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00

Table 11.--Forestland Site Preparation--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
38E:					
Templeton-----------	50	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
Necanicum-----------	35	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		
43F:					
Klistan-------------	35	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		
Harslow-------------	30	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		
Hemcross------------	25	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
44E:					
Klistan-------------	35	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		
Harslow-------------	30	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		
Rock outcrop--------	20	Not rated		Not rated	
44F:					
Harslow-------------	35	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		
Klistan-------------	30	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		
Rock outcrop--------	20	Not rated		Not rated	
45B:					
Hebo----------------	80	Well suited		Well suited	
48D:					
Hemcross------------	60	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Klistan-------------	25	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
		Rock fragments	0.50		
48E:					
Hemcross------------	50	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
Klistan-------------	35	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		

Table 11.--Forestland Site Preparation--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
50B:					
Walluski	80	Well suited		Well suited	
51B:					
Walluski	45	Well suited		Well suited	
Chitwood	40	Well suited		Well suited	
51C:					
Walluski	45	Well suited		Well suited	
Chitwood	30	Well suited		Well suited	
54B:					
Knappa	85	Well suited		Well suited	
55A:					
Histosols	55	Poorly suited		Unsuited	
		Wetness	0.75	Wetness	1.00
Water	45	Not rated		Not rated	
56B:					
Wolfer	80	Well suited		Well suited	
56C:					
Wolfer	85	Well suited		Well suited	
57B:					
Condorbridge	85	Well suited		Well suited	
57C:					
Condorbridge	80	Well suited		Well suited	
58C:					
Knappa	85	Well suited		Well suited	
59B:					
Chitwood	45	Well suited		Well suited	
Knappa	40	Well suited		Well suited	
60E:					
Caterl	35	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		
Laderly	30	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50	Restrictive layer	0.50
				Rock fragments	0.50
Rock outcrop	25	Not rated		Not rated	
60F:					
Laderly	35	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50	Restrictive layer	0.50
				Rock fragments	0.50

Table 11.--Forestland Site Preparation--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
60F:					
Caterl	30	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		
Rock outcrop	20	Not rated		Not rated	
61F:					
Laderly, south slopes	40	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50	Restrictive layer	0.50
				Rock fragments	0.50
Rock outcrop, south slopes	25	Not rated		Not rated	
Caterl, south slopes	20	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		
62F:					
Rock outcrop	60	Not rated		Not rated	
Laderly	25	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50	Restrictive layer	0.50
				Rock fragments	0.50
70D:					
Murtip	45	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Caterl	30	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
		Rock fragments	0.50		
Laderly	15	Poorly suited		Poorly suited	
		Slope	0.50	Restrictive layer	0.50
		Rock fragments	0.50	Slope	0.50
				Rock fragments	0.50
70E:					
Murtip	40	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
Caterl	30	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		
Laderly	15	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50	Restrictive layer	0.50
				Rock fragments	0.50
71D:					
McMille	50	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50

Table 11.--Forestland Site Preparation--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
71D:					
Mutt	35	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
72D:					
Caterl, clayey	60	Poorly suited		Poorly suited	
		Rock fragments	0.50	Slope	0.50
		Slope	0.50		
Murtip, clayey	20	Poorly suited		Poorly suited	
		Rock fragments	0.50	Slope	0.50
		Slope	0.50		
73A:					
Nehalem, frequent flooding	75	Well suited		Well suited	
74A:					
Nehalem, occasional flooding	80	Well suited		Well suited	
76A:					
Nestucca	90	Well suited		Unsuited	
				Wetness	1.00
77A:					
Nestucca	55	Well suited		Unsuited	
				Wetness	1.00
Brenner	40	Well suited		Unsuited	
				Wetness	1.00
80B:					
Quillamook	80	Well suited		Well suited	
81B:					
Quillamook, gravelly substratum	60	Well suited		Well suited	
Quillamook	25	Well suited		Well suited	
81C:					
Quillamook, gravelly substratum	60	Well suited		Well suited	
Quillamook	25	Well suited		Well suited	
89A:					
Udifluvents	40	Well suited		Well suited	
Riverwash	30	Not rated		Not rated	
Water	25	Not rated		Not rated	
90A:					
Yachats	85	Well suited		Well suited	
91A:					
Gauldy	85	Well suited		Well suited	

Table 11.--Forestland Site Preparation--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
92A:					
Yachats	45	Well suited		Well suited	
Gauldy	40	Well suited		Well suited	
93B:					
Gauldy, occasional flooding	50	Well suited		Well suited	
Gauldy, rare flooding	35	Well suited		Well suited	
94B:					
Ginger	35	Well suited		Well suited	
Quillamook	30	Well suited		Well suited	
Urban land	30	Not rated		Not rated	
95B:					
Urban land	55	Not rated		Not rated	
Quillamook	30	Well suited		Well suited	
96B:					
Ginger	40	Well suited		Well suited	
Hebo	35	Well suited		Well suited	
99:					
Beaches	95	Not rated		Not rated	
100B:					
Urban land	65	Not rated		Not rated	
Udorthents	25	Poorly suited		Well suited	
		Rock fragments	0.50		
101B:					
Urban land, flooded	65	Not rated		Not rated	
Udorthents, flooded	25	Poorly suited		Unsuited	
		Rock fragments	0.50	Wetness	1.00
102A:					
Fluvaquents, diked	60	Well suited		Unsuited	
				Wetness	1.00
Histosols, diked	35	Well suited		Unsuited	
				Wetness	1.00
103A:					
Coquille, diked	85	Well suited		Unsuited	
				Wetness	1.00
104A:					
Coquille, protected	50	Well suited		Unsuited	
				Wetness	1.00

Table 11.--Forestland Site Preparation--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
104A:					
Brenner, protected	30	Well suited		Unsuited	
				Wetness	1.00
Nehalem, protected	15	Well suited		Well suited	
110F:					
Waldport, thin surface	85	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
115A:					
Aquepts	85	Poorly suited		Unsuited	
		Wetness	0.50	Wetness	1.00
116A:					
Aquepts, warm	85	Well suited		Unsuited	
				Wetness	1.00
118B:					
Oxyaquic Hapludands, flood plains	45	Well suited		Well suited	
Alic Hapludands, terraces	30	Well suited		Well suited	
119B:					
Oxyaquic Fulvudands, flood plains	45	Well suited		Poorly suited	
				Rock fragments	0.50
Typic Fulvudands, terraces	30	Well suited		Well suited	
120C:					
Alic Hapludands, terraces	60	Well suited		Well suited	
Alic Hapludands, fans	35	Poorly suited		Well suited	
		Rock fragments	0.50		
121D:					
Fendall	50	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Munsoncreek	30	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
125B:					
Siletz	80	Well suited		Well suited	
126B:					
Siletz, warm	80	Well suited		Well suited	
127C:					
Condorbridge, warm	80	Well suited		Well suited	

Table 11.--Forestland Site Preparation--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
128B:					
Siletz	45	Well suited		Well suited	
Wolfer	40	Well suited		Well suited	
144F:					
Harslow, south slopes	40	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		
Rock outcrop, south slopes	30	Not rated		Not rated	
Klistan, south slopes	20	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		
145F:					
Rock outcrop	60	Not rated		Not rated	
Harslow	25	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		
156F:					
Sevencedars	55	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		
Newanna	30	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		
157D:					
Caterl, till substratum	80	Poorly suited		Poorly suited	
		Rock fragments	0.50	Slope	0.50
		Slope	0.50		
157E:					
Caterl, till substratum	80	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		
157F:					
Caterl, till substratum	80	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		
158D:					
Sevencedars, till substratum	80	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
		Rock fragments	0.50		

Table 11.--Forestland Site Preparation--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
158E:					
Sevencedars, till substratum	80	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		
158F:					
Sevencedars, till substratum	85	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		
159D:					
Sevencedars, clayey	85	Poorly suited		Poorly suited	
		Rock fragments	0.50	Slope	0.50
		Slope	0.50		
161D:					
Sevencedars	35	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
		Rock fragments	0.50		
Newanna	30	Poorly suited		Poorly suited	
		Rock fragments	0.50	Slope	0.50
		Slope	0.50		
Woodspoint	25	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
161E:					
Sevencedars	50	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		
Newanna	20	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		
Woodspoint	20	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
161F:					
Newanna	35	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		
Sevencedars	35	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		
Rock outcrop	20	Not rated		Not rated	
162D:					
Mosscreek	50	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Fawceter	40	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
		Rock fragments	0.50		

Table 11.--Forestland Site Preparation--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
162E:					
Mosscreek-----------	50	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
Fawceter------------	45	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		
163F:					
Fawceter------------	40	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		
Killam--------------	25	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50	Restrictive layer	1.00
Mosscreek-----------	20	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
164F:					
Killam--------------	35	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50	Restrictive layer	1.00
Fawceter------------	30	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		
Rock outcrop--------	20	Not rated		Not rated	
166F:					
Rock outcrop--------	60	Not rated		Not rated	
Killam--------------	25	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50	Restrictive layer	1.00
170A:					
Logsden-------------	85	Well suited		Well suited	
170B:					
Logsden-------------	50	Well suited		Well suited	
Nehalem, occasional flooding-----------	40	Well suited		Well suited	
173B:					
Tillamook-----------	45	Well suited		Well suited	
Ginger--------------	40	Well suited		Well suited	
173C:					
Tillamook-----------	45	Well suited		Well suited	
Ginger--------------	40	Well suited		Well suited	
174C:					
Typic Fulvudands, terraces-----------	60	Well suited		Well suited	

Table 11.--Forestland Site Preparation--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
174C:					
Typic Fulvudands, fans	35	Well suited		Well suited	
175D:					
Astoria	80	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
176D:					
Preacher	65	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Bohannon	20	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
176E:					
Preacher	55	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
Bohannon	30	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
177B:					
Dystrudepts	65	Well suited		Well suited	
Aquepts	30	Poorly suited		Unsuited	
		Wetness	0.50	Wetness	1.00
178B:					
Fluventic Humic Dystrudepts	45	Well suited		Well suited	
Dystrudepts	25	Well suited		Well suited	
Aquepts	20	Poorly suited		Unsuited	
		Wetness	0.50	Wetness	1.00
180D:					
Salander	85	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
180E:					
Salander	60	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
Necanicum	25	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		
180F:					
Salander	50	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
Necanicum	20	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		
Neskowin	15	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
				Restrictive layer	0.50

Table 11.--Forestland Site Preparation--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
181E:					
Neskowin------------	60	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
				Restrictive layer	0.50
Salander------------	25	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
181F:					
Neskowin------------	35	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
				Restrictive layer	0.50
Rock outcrop--------	30	Not rated		Not rated	
Necanicum-----------	20	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		
182D:					
Neotsu--------------	60	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Salander------------	30	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
183D:					
Winema--------------	55	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Fendall-------------	30	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
185F:					
Udorthents, steep---	50	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
Rock outcrop--------	30	Not rated		Not rated	
190D:					
Mulkey--------------	85	Well suited		Poorly suited	
				Restrictive layer	0.50
191B:					
Siletz--------------	40	Well suited		Well suited	
Euchre--------------	35	Well suited		Well suited	
192A:					
Yachats, occasional flooding-----------	85	Well suited		Well suited	
303F:					
Ascar---------------	50	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.50
Rock outcrop--------	40	Not rated		Not rated	

Table 11.--Forestland Site Preparation--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
307F:					
Braun	45	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
Scaponia	35	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
309D:					
Caterl	45	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
		Rock fragments	0.50		
Laderly	35	Poorly suited		Poorly suited	
		Slope	0.50	Restrictive layer	0.50
		Rock fragments	0.50	Slope	0.50
				Rock fragments	0.50
309E:					
Caterl	40	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		
Laderly	35	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50	Restrictive layer	0.50
				Rock fragments	0.50
314A:					
Croquib	85	Well suited		Well suited	
322F:					
Harslow	50	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		
Kilchis	35	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50	Restrictive layer	1.00
				Rock fragments	0.50
327:					
Dystrudepts, steep	95	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
328:					
Dystrudepts	45	Well suited		Well suited	
Humaquepts, isomesic	40	Well suited		Unsuited	
				Wetness	1.00
329F:					
Kilchis	45	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50	Restrictive layer	1.00
				Rock fragments	0.50
Rock outcrop	35	Not rated		Not rated	

Table 11.--Forestland Site Preparation--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
338F:					
Laderly	40	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50	Restrictive layer	0.50
				Rock fragments	0.50
Rock outcrop	35	Not rated		Not rated	
342D:					
McMille	85	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
345A:					
Mues	85	Well suited		Well suited	
346D:					
Murtip	75	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
347E:					
Murtip	45	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
Caterl	35	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		
350E:					
Necanicum	45	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		
Ascar	30	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.50
356D:					
Rinearson	85	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
357E:					
Scaponia	50	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
Braun	35	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
358D:					
Skipanon	80	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
358E:					
Skipanon	80	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
359D:					
Svensen	85	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50

Table 11.--Forestland Site Preparation--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
359E:					
Svensen	85	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
363D:					
Tolke	80	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
371C:					
Walluski	85	Well suited		Well suited	
403E:					
Astoria	80	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
420E:					
Hembre	85	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
420F:					
Hembre	85	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
425E:					
Klickitat	80	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.50
433D:					
Melby	80	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
433E:					
Melby	80	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
439E:					
Tolke	70	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
501D:					
Apt	55	Well suited		Well suited	
McDuff	30	Well suited		Well suited	
501E:					
Apt	50	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
McDuff	30	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
517A:					
Euchre	85	Well suited		Well suited	
519D:					
Fendall	50	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Winema	30	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50

Table 11.--Forestland Site Preparation--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
532D:					
Klootchie-----------	45	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Neotsu--------------	35	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
532E:					
Klootchie-----------	50	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
Neotsu--------------	30	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
543F:					
Neotsu--------------	40	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
Necanicum-----------	35	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		
552F:					
Reedsport-----------	50	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
Tolovana------------	30	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
555D:					
Templeton-----------	55	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Fendall-------------	30	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
556D:					
Tolovana------------	45	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Reedsport-----------	35	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
556E:					
Tolovana------------	50	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
Reedsport-----------	35	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
611B:					
Dystrudepts, warm---	50	Well suited		Well suited	
Aquepts, warm-------	30	Poorly suited		Unsuited	
		Wetness	0.50	Wetness	1.00
Humaquepts, warm----	15	Well suited		Unsuited	
				Wetness	1.00
W:					
Water---------------	100	Not rated		Not rated	

Table 12.--Damage by Fire and Seedling Mortality on Forestland

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
1A:					
Brenner	85	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
2A:					
Fluvaquents	60	Low		High	
				Wetness	1.00
				Salinity	0.50
Histosols	35	Low		High	
				Wetness	1.00
3A:					
Coquille	85	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
4D:					
Ginsberg	85	Low		Low	
		Texture/rock fragments	0.10		
4E:					
Ginsberg	60	Low		Low	
		Texture/slope/rock fragments	0.10		
Klistan	20	Moderate		Low	
		Texture/slope/rock fragments	0.50		
5E:					
Ferrelo	90	Low		Low	
		Texture/rock fragments	0.10		
6D:					
Horseprairie	65	Low		Low	
		Texture/rock fragments	0.10		
Ferrelo	25	Low		Low	
		Texture/rock fragments	0.10		
7:					
Dune land	80	Not rated		Not rated	
8A:					
Depoe	85	Low		High	
				Wetness	1.00

Table 12.--Damage by Fire and Seedling Mortality on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
9B:					
Waldport	85	Low		Moderate	
				Available water	0.50
9C:					
Waldport	85	High		Moderate	
		Texture/surface layer thickness/ rock fragments	1.00	Available water	0.50
9D:					
Waldport	85	High		High	
		Texture/surface layer thickness/ rock fragments	1.00	Available water	1.00
9E:					
Waldport	85	High		High	
		Texture/slope/ surface layer thickness	1.00	Available water	1.00
10B:					
Waldport, thin surface	85	Low		Low	
10C:					
Waldport, thin surface	90	High		Low	
		Texture/surface layer thickness/ rock fragments	1.00		
10E:					
Waldport, thin surface	85	High		Moderate	
		Texture/slope/ surface layer thickness	1.00	Available water	0.50
11B:					
Netarts	85	Low		Low	
11C:					
Netarts	90	Low		Low	
		Texture/surface layer thickness/ rock fragments	0.10		
11D:					
Netarts	90	Moderate		Moderate	
		Texture/surface layer thickness/ rock fragments	0.50	Available water	0.50
11E:					
Netarts	90	Moderate		Moderate	
		Texture/slope/ surface layer thickness/rock fragments	0.50	Available water	0.50

Table 12.--Damage by Fire and Seedling Mortality on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
12B:					
Yaquina	85	Moderate		High	
		Texture/rock fragments	0.50	Wetness	1.00
13B:					
Waldport, thin surface	70	Low		Low	
Heceta	25	Moderate		High	
		Texture/rock fragments	0.50	Wetness	1.00
14A:					
Heceta	85	Moderate		High	
		Texture/rock fragments	0.50	Wetness	1.00
15B:					
Netarts	50	Low		Low	
Yaquina	45	Moderate		High	
		Texture/rock fragments	0.50	Wetness	1.00
16F:					
Caterl	45	Low		Low	
		Texture/slope/rock fragments	0.10		
Laderly	25	Low		Low	
		Texture/rock fragments	0.10		
Murtip	20	Low		Low	
		Texture/slope/rock fragments	0.10		
17B:					
Chitwood	50	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
Hebo	35	Low		High	
				Wetness	1.00
18B:					
Chitwood	80	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
18C:					
Chitwood	80	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
19E:					
Klootchie	85	Low		Low	
		Texture/slope/rock fragments	0.10		

Table 12.--Damage by Fire and Seedling Mortality on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
20D:					
Klootchie	60	Low		Moderate	
		Texture/rock fragments	0.10	Available water	0.50
Necanicum	25	Moderate		Moderate	
		Texture/rock fragments	0.50	Available water	0.50
20E:					
Klootchie	55	Low		Low	
		Texture/slope/rock fragments	0.10		
Necanicum	30	Low		Low	
		Texture/rock fragments	0.10		
21F:					
Necanicum	40	Low		Low	
		Texture/rock fragments	0.10		
Ascar	25	Moderate		Low	
		Texture/slope/rock fragments	0.50		
Klootchie	20	Low		Low	
		Texture/slope/rock fragments	0.10		
22F:					
Ascar	35	High		Moderate	
		Texture/slope/rock fragments	1.00	Available water	0.50
Necanicum	30	Moderate		Moderate	
		Texture/rock fragments	0.50	Available water	0.50
Rock outcrop	20	Not rated		Not rated	
23F:					
Rock outcrop	60	Not rated		Not rated	
Ascar	25	High		Moderate	
		Texture/slope/rock fragments	1.00	Available water	0.50
24C:					
Lebam	85	Low		Low	
		Texture/rock fragments	0.10		
24D:					
Lebam	85	Low		Moderate	
		Texture/rock fragments	0.10	Available water	0.50

Table 12.--Damage by Fire and Seedling Mortality on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
25E:					
Lebam	60	Low		Moderate	
		Texture/rock fragments	0.10	Available water	0.50
Necanicum	20	Moderate		Moderate	
		Texture/rock fragments	0.50	Available water	0.50
26F:					
Lebam	55	Low		Moderate	
		Texture/rock fragments	0.10	Available water	0.50
Necanicum	25	Moderate		Moderate	
		Texture/rock fragments	0.50	Available water	0.50
28D:					
Templeton	60	Low		Low	
		Texture/rock fragments	0.10		
Necanicum	25	Low		Low	
		Texture/rock fragments	0.10		
29D:					
Templeton	50	Low		Low	
		Texture/rock fragments	0.10		
Klootchie	35	Low		Low	
		Texture/rock fragments	0.10		
29E:					
Templeton	45	Low		Moderate	
		Texture/rock fragments	0.10	Available water	0.50
Klootchie	40	Low		Moderate	
				Available water	0.50
30D:					
Templeton	85	Low		Moderate	
		Texture/rock fragments	0.10	Available water	0.50
30E:					
Templeton	60	Low		Low	
		Texture/rock fragments	0.10		
Ecola	20	Low		Low	
		Texture/rock fragments	0.10		

Table 12.--Damage by Fire and Seedling Mortality on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
30F:					
Templeton	45	Low		Low	
		Texture/rock fragments	0.10		
Ecola	40	Low		Low	
		Texture/rock fragments	0.10		
31D:					
Tolovana	45	Low		Low	
		Texture/rock fragments	0.10		
Templeton	40	Low		Low	
		Texture/rock fragments	0.10		
31E:					
Tolovana	50	Low		Low	
		Texture/slope/rock fragments	0.10		
Templeton	25	Low		Low	
		Texture/rock fragments	0.10		
32D:					
Munsoncreek	65	Low		Moderate	
		Texture/rock fragments	0.10	Available water	0.50
Flowerpot	20	Low		Moderate	
				Wetness	0.50
				Soil reaction	0.50
				Available water	0.50
32E:					
Munsoncreek	65	Low		Low	
		Texture/rock fragments	0.10		
Templeton	20	Low		Low	
		Texture/rock fragments	0.10		
33D:					
Tolovana	85	Low		Moderate	
		Texture/rock fragments	0.10	Available water	0.50
37D:					
Templeton	45	Low		Low	
		Texture/rock fragments	0.10		
Skipanon	30	Low		Low	
		Texture/rock fragments	0.10		

Table 12.--Damage by Fire and Seedling Mortality on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
37E:					
Templeton	55	Low		Low	
		Texture/rock fragments	0.10		
Skipanon	30	Low		Low	
		Texture/slope/rock fragments	0.10		
38E:					
Templeton	50	Low		Moderate	
		Texture/rock fragments	0.10	Available water	0.50
Necanicum	35	Moderate		Moderate	
		Texture/rock fragments	0.50	Available water	0.50
43F:					
Klistan	35	Moderate		Low	
		Texture/slope/rock fragments	0.50		
Harslow	30	Moderate		Low	
		Texture/slope/rock fragments	0.50		
Hemcross	25	Low		Low	
		Texture/slope/rock fragments	0.10		
44E:					
Klistan	35	Moderate		Moderate	
		Texture/slope/rock fragments	0.50	Available water	0.50
Harslow	30	High		Moderate	
		Texture/slope/rock fragments	1.00	Available water	0.50
Rock outcrop	20	Not rated		Not rated	
44F:					
Harslow	35	High		Moderate	
		Texture/slope/rock fragments	1.00	Available water	0.50
Klistan	30	Moderate		Moderate	
		Texture/slope/rock fragments	0.50	Available water	0.50
Rock outcrop	20	Not rated		Not rated	
45B:					
Hebo	80	Low		High	
				Wetness	1.00
48D:					
Hemcross	60	Low		Low	
		Texture/rock fragments	0.10		

Table 12.--Damage by Fire and Seedling Mortality on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
48D:					
Klistan	25	Low		Low	
		Texture/rock fragments	0.10		
48E:					
Hemcross	50	Low		Low	
		Texture/slope/rock fragments	0.10		
Klistan	35	Moderate		Low	
		Texture/slope/rock fragments	0.50		
50B:					
Walluski	80	Low		Low	
		Texture/rock fragments	0.10		
51B:					
Walluski	45	Low		Low	
		Texture/rock fragments	0.10		
Chitwood	40	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
51C:					
Walluski	45	Low		Low	
		Texture/rock fragments	0.10		
Chitwood	30	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
54B:					
Knappa	85	Low		Low	
		Texture/rock fragments	0.10		
55A:					
Histosols	55	Low		High	
				Wetness	1.00
Water	45	Not rated		Not rated	
56B:					
Wolfer	80	Low		Low	
		Texture/rock fragments	0.10		
56C:					
Wolfer	85	Low		Low	
		Texture/rock fragments	0.10		

Table 12.--Damage by Fire and Seedling Mortality on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
57B:					
Condorbridge--------	85	Low		Low	
		Texture/rock fragments	0.10		
57C:					
Condorbridge--------	80	Low		Low	
		Texture/rock fragments	0.10		
58C:					
Knappa--------------	85	Low		Low	
		Texture/rock fragments	0.10		
59B:					
Chitwood------------	45	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
Knappa--------------	40	Low		Low	
		Texture/rock fragments	0.10		
60E:					
Caterl--------------	35	Low		Moderate	
				Available water	0.50
Laderly-------------	30	Moderate		Moderate	
		Texture/rock fragments	0.50	Available water	0.50
Rock outcrop--------	25	Not rated		Not rated	
60F:					
Laderly-------------	35	Low		Low	
		Texture/rock fragments	0.10		
Caterl--------------	30	Low		Low	
		Texture/slope/rock fragments	0.10		
Rock outcrop--------	20	Not rated		Not rated	
61F:					
Laderly, south slopes-------------	40	Moderate		Moderate	
		Texture/rock fragments	0.50	Available water	0.50
Rock outcrop, south slopes-------------	25	Not rated		Not rated	
Caterl, south slopes	20	Low		Moderate	
				Available water	0.50
62F:					
Rock outcrop--------	60	Not rated		Not rated	

Table 12.--Damage by Fire and Seedling Mortality on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
62F:					
Laderly	25	Moderate		Moderate	
		Texture/rock fragments	0.50	Available water	0.50
70D:					
Murtip	45	Low		Low	
		Texture/rock fragments	0.10		
Caterl	30	Low		Low	
		Texture/rock fragments	0.10		
Laderly	15	Low		Low	
		Texture/rock fragments	0.10		
70E:					
Murtip	40	Low		Low	
		Texture/slope/rock fragments	0.10		
Caterl	30	Low		Low	
		Texture/slope/rock fragments	0.10		
Laderly	15	Low		Low	
		Texture/rock fragments	0.10		
71D:					
McMille	50	Moderate		Moderate	
		Texture/surface layer thickness/ rock fragments	0.50	Available water	0.50
Mutt	35	Moderate		Moderate	
		Texture/surface layer thickness/ rock fragments	0.50	Available water	0.50
72D:					
Caterl, clayey	60	Low		Low	
		Texture/rock fragments	0.10		
Murtip, clayey	20	Low		Low	
		Texture/rock fragments	0.10		
73A:					
Nehalem, frequent flooding	75	Low		Low	
		Texture/rock fragments	0.10		
74A:					
Nehalem, occasional flooding	80	Low		Low	
		Texture/rock fragments	0.10		

Table 12.--Damage by Fire and Seedling Mortality on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
76A:					
Nestucca	90	Low		Moderate	
		Texture/rock fragments	0.10	Wetness	0.50
77A:					
Nestucca	55	Low		Moderate	
		Texture/rock fragments	0.10	Wetness	0.50
Brenner	40	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
80B:					
Quillamook	80	Low		Low	
		Texture/rock fragments	0.10		
81B:					
Quillamook, gravelly substratum	60	Low		Low	
		Texture/rock fragments	0.10		
Quillamook	25	Low		Low	
		Texture/rock fragments	0.10		
81C:					
Quillamook, gravelly substratum	60	Low		Low	
		Texture/rock fragments	0.10		
Quillamook	25	Low		Low	
		Texture/rock fragments	0.10		
89A:					
Udifluvents	40	Low		Low	
		Texture/rock fragments	0.10		
Riverwash	30	Not rated		Not rated	
Water	25	Not rated		Not rated	
90A:					
Yachats	85	Low		Low	
		Texture/rock fragments	0.10		
91A:					
Gauldy	85	Low		Low	
		Texture/rock fragments	0.10		

Table 12.--Damage by Fire and Seedling Mortality on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
92A:					
Yachats-------------	45	Low		Low	
		Texture/rock fragments	0.10		
Gauldy--------------	40	Low		Low	
		Texture/rock fragments	0.10		
93B:					
Gauldy, occasional flooding-----------	50	Low		Low	
		Texture/rock fragments	0.10		
Gauldy, rare flooding-----------	35	Low		Low	
		Texture/rock fragments	0.10		
94B:					
Ginger--------------	35	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
Quillamook----------	30	Low		Low	
		Texture/rock fragments	0.10		
Urban land----------	30	Not rated		Not rated	
95B:					
Urban land----------	55	Not rated		Not rated	
Quillamook----------	30	Low		Low	
		Texture/rock fragments	0.10		
96B:					
Ginger--------------	40	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
Hebo----------------	35	Low		High	
				Wetness	1.00
99:					
Beaches-------------	95	Not rated		Not rated	
100B:					
Urban land----------	65	Not rated		Not rated	
Udorthents----------	25	Low		Low	
101B:					
Urban land, flooded	65	Not rated		Not rated	
Udorthents, flooded	25	Low		Moderate	
				Wetness	0.50

Table 12.--Damage by Fire and Seedling Mortality on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
102A:					
Fluvaquents, diked	60	Low		High	
				Wetness	1.00
				Salinity	0.50
Histosols, diked	35	Low		High	
				Wetness	1.00
103A:					
Coquille, diked	85	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
104A:					
Coquille, protected	50	Low		Moderate	
		Texture/rock fragments	0.10	Wetness	0.50
Brenner, protected	30	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
Nehalem, protected	15	Low		Low	
		Texture/rock fragments	0.10		
110F:					
Waldport, thin surface	85	High		Moderate	
		Texture/slope/ surface layer thickness	1.00	Available water	0.50
115A:					
Aquepts	85	Low		High	
				Wetness	1.00
116A:					
Aquepts, warm	85	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
118B:					
Oxyaquic Hapludands, flood plains	45	Low		Low	
		Texture/rock fragments	0.10		
Alic Hapludands, terraces	30	Low		Low	
		Texture/rock fragments	0.10		
119B:					
Oxyaquic Fulvudands, flood plains	45	Low		Low	
		Texture/rock fragments	0.10		

Table 12.--Damage by Fire and Seedling Mortality on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
119B:					
Typic Fulvudands, terraces	30	Low		Low	
		Texture/rock fragments	0.10		
120C:					
Alic Hapludands, terraces	60	Low		Low	
		Texture/rock fragments	0.10		
Alic Hapludands, fans	35	Moderate		Low	
		Texture/rock fragments	0.50		
121D:					
Fendall	50	Low		Moderate	
		Texture/rock fragments	0.10	Available water	0.50
Munsoncreek	30	Low		Moderate	
		Texture/rock fragments	0.10	Available water	0.50
125B:					
Siletz	80	Low		Low	
		Texture/rock fragments	0.10		
126B:					
Siletz, warm	80	Low		Low	
		Texture/rock fragments	0.10		
127C:					
Condorbridge, warm	80	Low		Low	
		Texture/rock fragments	0.10		
128B:					
Siletz	45	Low		Low	
		Texture/rock fragments	0.10		
Wolfer	40	Low		Low	
		Texture/rock fragments	0.10		
144F:					
Harslow, south slopes	40	High		Moderate	
		Texture/slope/rock fragments	1.00	Available water	0.50
Rock outcrop, south slopes	30	Not rated		Not rated	

Table 12.--Damage by Fire and Seedling Mortality on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Potential for damage to soil by fire: Value	Potential for seedling mortality: Rating class and limiting features	Potential for seedling mortality: Value
144F:					
Klistan, south slopes	20	Moderate		Moderate	
		Texture/slope/rock fragments	0.50	Available water	0.50
145F:					
Rock outcrop	60	Not rated		Not rated	
Harslow	25	High		Moderate	
		Texture/slope/rock fragments	1.00	Available water	0.50
156F:					
Sevencedars	55	Low		Low	
		Texture/slope/rock fragments	0.10		
Newanna	30	Low		Low	
		Texture/rock fragments	0.10		
157D:					
Caterl, till substratum	80	Moderate		Low	
		Texture/surface layer thickness/ rock fragments	0.50		
157E:					
Caterl, till substratum	80	Moderate		Low	
		Texture/slope/ surface layer thickness/rock fragments	0.50		
157F:					
Caterl, till substratum	80	Moderate		Low	
		Texture/slope/ surface layer thickness/rock fragments	0.50		
158D:					
Sevencedars, till substratum	80	Low		Low	
		Texture/rock fragments	0.10		
158E:					
Sevencedars, till substratum	80	Moderate		Low	
		Texture/slope/rock fragments	0.50		

Table 12.--Damage by Fire and Seedling Mortality on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
158F:					
Sevencedars, till substratum	85	Moderate		Low	
		Texture/slope/rock fragments	0.50		
159D:					
Sevencedars, clayey	85	Low		Low	
		Texture/rock fragments	0.10		
161D:					
Sevencedars	35	Low		Low	
		Texture/rock fragments	0.10		
Newanna	30	Low		Low	
		Texture/rock fragments	0.10		
Woodspoint	25	Low		Low	
		Texture/rock fragments	0.10		
161E:					
Sevencedars	50	Low		Low	
		Texture/slope/rock fragments	0.10		
Newanna	20	Low		Low	
		Texture/rock fragments	0.10		
Woodspoint	20	Low		Low	
		Texture/slope/rock fragments	0.10		
161F:					
Newanna	35	Low		Low	
		Texture/rock fragments	0.10		
Sevencedars	35	Low		Low	
		Texture/slope/rock fragments	0.10		
Rock outcrop	20	Not rated		Not rated	
162D:					
Mosscreek	50	Low		Low	
		Texture/rock fragments	0.10		
Fawceter	40	Low		Low	
		Texture/rock fragments	0.10		
162E:					
Mosscreek	50	Low		Low	
		Texture/rock fragments	0.10		

Table 12.--Damage by Fire and Seedling Mortality on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
162E:					
Fawceter	45	Low		Low	
		Texture/rock fragments	0.10		
163F:					
Fawceter	40	Low		Low	
		Texture/rock fragments	0.10		
Killam	25	Moderate		Low	
		Texture/rock fragments	0.50		
Mosscreek	20	Low		Low	
		Texture/rock fragments	0.10		
164F:					
Killam	35	Moderate		Moderate	
		Texture/rock fragments	0.50	Available water	0.50
Fawceter	30	Low		Moderate	
		Texture/rock fragments	0.10	Available water	0.50
Rock outcrop	20	Not rated		Not rated	
166F:					
Rock outcrop	60	Not rated		Not rated	
Killam	25	Moderate		Moderate	
		Texture/rock fragments	0.50	Available water	0.50
170A:					
Logsden	85	Low		Low	
		Texture/rock fragments	0.10		
170B:					
Logsden	50	Low		Low	
		Texture/rock fragments	0.10		
Nehalem, occasional flooding	40	Low		Low	
		Texture/rock fragments	0.10		
173B:					
Tillamook	45	Low		Low	
		Texture/rock fragments	0.10		
Ginger	40	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00

Table 12.--Damage by Fire and Seedling Mortality on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
173C:					
Tillamook	45	Low		Low	
		Texture/rock fragments	0.10		
Ginger	40	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
174C:					
Typic Fulvudands, terraces	60	Low		Low	
		Texture/rock fragments	0.10		
Typic Fulvudands, fans	35	Low		Low	
		Texture/rock fragments	0.10		
175D:					
Astoria	80	Low		Low	
		Texture/rock fragments	0.10		
176D:					
Preacher	65	Low		Low	
		Texture/rock fragments	0.10		
Bohannon	20	Low		Low	
		Texture/rock fragments	0.10		
176E:					
Preacher	55	Low		Low	
		Texture/rock fragments	0.10		
Bohannon	30	Low		Low	
		Texture/rock fragments	0.10		
177B:					
Dystrudepts	65	Low		Low	
Aquepts	30	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
178B:					
Fluventic Humic Dystrudepts	45	Low		Low	
		Texture/rock fragments	0.10		
Dystrudepts	25	Low		Low	
		Texture/rock fragments	0.10		

Table 12.--Damage by Fire and Seedling Mortality on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
178B:					
Aquepts	20	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
180D:					
Salander	85	Low		Low	
		Texture/rock fragments	0.10		
180E:					
Salander	60	Low		Low	
		Texture/rock fragments	0.10		
Necanicum	25	Low		Low	
		Texture/rock fragments	0.10		
180F:					
Salander	50	Low		Low	
		Texture/rock fragments	0.10		
Necanicum	20	Low		Low	
		Texture/rock fragments	0.10		
Neskowin	15	Low		Low	
		Texture/slope/rock fragments	0.10		
181E:					
Neskowin	60	Low		Moderate	
				Available water	0.50
Salander	25	Low		Moderate	
		Texture/rock fragments	0.10	Available water	0.50
181F:					
Neskowin	35	Low		Low	
		Texture/slope/rock fragments	0.10		
Rock outcrop	30	Not rated		Not rated	
Necanicum	20	Low		Low	
		Texture/rock fragments	0.10		
182D:					
Neotsu	60	Low		Moderate	
		Texture/rock fragments	0.10	Available water	0.50
Salander	30	Low		Moderate	
		Texture/rock fragments	0.10	Available water	0.50

Table 12.--Damage by Fire and Seedling Mortality on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
183D:					
Winema	55	Low		Moderate	
		Texture/rock fragments	0.10	Available water	0.50
Fendall	30	Low		Moderate	
		Texture/rock fragments	0.10	Available water	0.50
185F:					
Udorthents, steep	50	Moderate		Moderate	
		Texture/slope/ surface layer thickness/rock fragments	0.50	Soil reaction	0.50
Rock outcrop	30	Not rated		Not rated	
190D:					
Mulkey	85	Low		Low	
		Texture/rock fragments	0.10		
191B:					
Siletz	40	Low		Low	
		Texture/rock fragments	0.10		
Euchre	35	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
192A:					
Yachats, occasional flooding	85	Low		Low	
		Texture/rock fragments	0.10		
303F:					
Ascar	50	Moderate		Low	
		Texture/slope/rock fragments	0.50		
Rock outcrop	40	Not rated		Not rated	
307F:					
Braun	45	Moderate		Low	
		Texture/slope/ surface layer thickness/rock fragments	0.50		
Scaponia	35	Low		Low	
		Texture/slope/rock fragments	0.10		
309D:					
Caterl	45	Low		Moderate	
		Texture/rock fragments	0.10	Available water	0.50

Table 12.--Damage by Fire and Seedling Mortality on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
309D:					
Laderly	35	Moderate		Moderate	
		Texture/rock fragments	0.50	Available water	0.50
309E:					
Caterl	40	Low		Moderate	
				Available water	0.50
Laderly	35	Moderate		Moderate	
		Texture/rock fragments	0.50	Available water	0.50
314A:					
Croquib	85	Low		High	
				Wetness	1.00
				Soil reaction	0.50
322F:					
Harslow	50	High		Moderate	
		Texture/slope/rock fragments	1.00	Available water	0.50
Kilchis	35	Moderate		Moderate	
		Texture/slope/rock fragments	0.50	Available water	0.50
327:					
Dystrudepts, steep	95	Low		Moderate	
		Texture/rock fragments	0.10	Available water	0.50
328:					
Dystrudepts	45	Low		Low	
		Texture/rock fragments	0.10		
Humaquepts, isomesic	40	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
329F:					
Kilchis	45	Moderate		Moderate	
		Texture/slope/rock fragments	0.50	Available water	0.50
Rock outcrop	35	Not rated		Not rated	
338F:					
Laderly	40	Moderate		Moderate	
		Texture/rock fragments	0.50	Available water	0.50
Rock outcrop	35	Not rated		Not rated	
342D:					
McMille	85	Moderate		Moderate	
		Texture/surface layer thickness/ rock fragments	0.50	Available water	0.50

Table 12.--Damage by Fire and Seedling Mortality on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
345A:					
Mues	85	Low		Low	
		Texture/rock fragments	0.10		
346D:					
Murtip	75	Low		Low	
		Texture/rock fragments	0.10		
347E:					
Murtip	45	Low		Moderate	
				Available water	0.50
Caterl	35	Low		Moderate	
				Available water	0.50
350E:					
Necanicum	45	Low		Low	
		Texture/rock fragments	0.10		
Ascar	30	Moderate		Low	
		Texture/slope/rock fragments	0.50		
356D:					
Rinearson	85	Low		Low	
		Texture/rock fragments	0.10		
357E:					
Scaponia	50	Low		Low	
		Texture/slope/rock fragments	0.10		
Braun	35	Moderate		Low	
		Texture/slope/ surface layer thickness/rock fragments	0.50		
358D:					
Skipanon	80	Low		Low	
		Texture/rock fragments	0.10		
358E:					
Skipanon	80	Low		Low	
		Texture/slope/rock fragments	0.10		
359D:					
Svensen	85	Low		Moderate	
		Texture/rock fragments	0.10	Soil reaction	0.50
				Available water	0.50
359E:					
Svensen	85	Low		Moderate	
				Available water	0.50
				Soil reaction	0.50

Table 12.--Damage by Fire and Seedling Mortality on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
363D:					
Tolke	80	Low		Low	
		Texture/rock fragments	0.10		
371C:					
Walluski	85	Low		Low	
		Texture/rock fragments	0.10		
403E:					
Astoria	80	Low		Low	
		Texture/slope/rock fragments	0.10		
420E:					
Hembre	85	Low		Low	
		Texture/slope/rock fragments	0.10		
420F:					
Hembre	85	Low		Low	
		Texture/slope/rock fragments	0.10		
425E:					
Klickitat	80	Moderate		Low	
		Texture/slope/ surface layer thickness/rock fragments	0.50		
433D:					
Melby	80	Low		Low	
		Texture/surface layer thickness/ rock fragments	0.10		
433E:					
Melby	80	Moderate		Low	
		Texture/slope/ surface layer thickness/rock fragments	0.50		
439E:					
Tolke	70	Low		Moderate	
				Available water	0.50
501D:					
Apt	55	Low		Low	
McDuff	30	Low		Low	
501E:					
Apt	50	Low		Low	
McDuff	30	Low		Low	

Table 12.--Damage by Fire and Seedling Mortality on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
517A:					
Euchre	85	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
519D:					
Fendall	50	Low		Moderate	
		Texture/rock fragments	0.10	Available water	0.50
Winema	30	Low		Moderate	
		Texture/rock fragments	0.10	Available water	0.50
532D:					
Klootchie	45	Low		Low	
		Texture/rock fragments	0.10		
Neotsu	35	Low		Low	
		Texture/rock fragments	0.10		
532E:					
Klootchie	50	Low		Low	
		Texture/slope/rock fragments	0.10		
Neotsu	30	Low		Low	
		Texture/slope/rock fragments	0.10		
543F:					
Neotsu	40	Low		Moderate	
				Available water	0.50
Necanicum	35	Moderate		Moderate	
		Texture/rock fragments	0.50	Available water	0.50
552F:					
Reedsport	50	Low		Low	
		Texture/slope/rock fragments	0.10		
Tolovana	30	Low		Low	
		Texture/slope/rock fragments	0.10		
555D:					
Templeton	55	Low		Low	
		Texture/rock fragments	0.10		
Fendall	30	Low		Low	
		Texture/rock fragments	0.10		

Table 12.--Damage by Fire and Seedling Mortality on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
556D:					
Tolovana	45	Low		Moderate	
		Texture/rock fragments	0.10	Available water	0.50
Reedsport	35	Low		Moderate	
		Texture/rock fragments	0.10	Available water	0.50
556E:					
Tolovana	50	Low		Moderate	
				Available water	0.50
Reedsport	35	Low		Moderate	
				Available water	0.50
611B:					
Dystrudepts, warm	50	Low		Low	
Aquepts, warm	30	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
Humaquepts, warm	15	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
W:					
Water	100	Not rated		Not rated	

Table 13.--Forestland Plant Association Groups

Map unit symbol and soil name	Plant association group name	Plant association group number
1A:		
Brenner	Sitka spruce/salmonberry-wet	903
2A:		
Fluvaquents	Sitka spruce/wet non-forest	991
Histosols	Sitka spruce/wet non-forest	991
3A:		
Coquille	Sitka spruce/salmonberry-wet	903
4D:		
Ginsberg	Western hemlock/oxalis-swordfern-moist	1907
4E:		
Ginsberg	Western hemlock/oxalis-swordfern-moist	1907
Klistan	Western hemlock/oxalis-swordfern-moist	1907
5E:		
Ferrelo	Sitka spruce/oxalis, swordfern-moist	902
6D:		
Horseprairie	Sitka spruce/oxalis, swordfern-moist	902
Ferrelo	Sitka spruce/oxalis, swordfern-moist	902
7:		
Dune land	Sitka spruce/dry non-forest	971
8A:		
Depoe	Sitka spruce/oxalis, swordfern-moist	902
9B:		
Waldport	Sitka spruce/salal-mesic	901
9C:		
Waldport	Sitka spruce/salal-mesic	901
9D:		
Waldport	Sitka spruce/salal-mesic	901
9E:		
Waldport	Sitka spruce/salal-mesic	901
10B:		
Waldport, thin surface	Sitka spruce/dry non-forest	971
10C:		
Waldport, thin surface	Sitka spruce/dry non-forest	971
10E:		
Waldport, thin surface	Sitka spruce/dry non-forest	971
11B:		
Netarts	Sitka spruce/salal-mesic	901
11C:		
Netarts	Sitka spruce/salal-mesic	901
11D:		
Netarts	Sitka spruce/salal-mesic	901

Table 13.--Forestland Plant Association Groups--Continued

Map unit symbol and soil name	Plant association group name	Plant association group number
11E:		
Netarts	Sitka spruce/salal-mesic	901
12B:		
Yaquina	Sitka spruce/salal-mesic	901
13B:		
Waldport, thin surface	Sitka spruce/dry non-forest	971
Heceta	Sitka spruce/wet non-forest	991
14A:		
Heceta	Sitka spruce/wet non-forest	991
15B:		
Netarts	Sitka spruce/salal-mesic	901
Yaquina	Sitka spruce/salal-mesic	901
16F:		
Caterl	Western hemlock/Alaska huckleberry/oxalis	1909
Laderly	Western hemlock/Alaska huckleberry/oxalis	1909
Murtip	Western hemlock/Alaska huckleberry/oxalis	1909
17B:		
Chitwood	Sitka spruce/salmonberry-wet	903
Hebo	Sitka spruce/salmonberry-wet	903
18B:		
Chitwood	Sitka spruce/salmonberry-wet	903
18C:		
Chitwood	Sitka spruce/salmonberry-wet	903
19E:		
Klootchie	Sitka spruce/oxalis, swordfern-moist	902
20D:		
Klootchie	Sitka spruce/salmonberry-wet	903
Necanicum	Sitka spruce/salmonberry-wet	903
20E:		
Klootchie	Sitka spruce/oxalis, swordfern-moist	902
Necanicum	Sitka spruce/oxalis, swordfern-moist	902
21F:		
Necanicum	Sitka spruce/oxalis, swordfern-moist	902
Ascar	Sitka spruce/oxalis, swordfern-moist	902
Klootchie	Sitka spruce/oxalis, swordfern-moist	902
22F:		
Ascar	Sitka spruce/oxalis, swordfern-moist	902
Necanicum	Sitka spruce/oxalis, swordfern-moist	902

Table 13.--Forestland Plant Association Groups--Continued

Map unit symbol and soil name	Plant association group name	Plant association group number
22F:		
Rock outcrop	---	
23F:		
Rock outcrop	---	
Ascar	Sitka spruce/oxalis, swordfern-moist	902
24C:		
Lebam	Sitka spruce/salmonberry-wet	903
24D:		
Lebam	Sitka spruce/salmonberry-wet	903
25E:		
Lebam	Sitka spruce/oxalis, swordfern-moist	902
Necanicum	Sitka spruce/oxalis, swordfern-moist	902
26F:		
Lebam	Sitka spruce/oxalis, swordfern-moist	902
Necanicum	Sitka spruce/oxalis, swordfern-moist	902
28D:		
Templeton	Sitka spruce/salmonberry-wet	903
Necanicum	Sitka spruce/salmonberry-wet	903
29D:		
Templeton	Sitka spruce/salmonberry-wet	903
Klootchie	Sitka spruce/salmonberry-wet	903
29E:		
Templeton	Sitka spruce/oxalis, swordfern-moist	902
Klootchie	Sitka spruce/oxalis, swordfern-moist	902
30D:		
Templeton	Sitka spruce/salmonberry-wet	903
30E:		
Templeton	Sitka spruce/oxalis, swordfern-moist	902
Ecola	Sitka spruce/oxalis, swordfern-moist	902
30F:		
Templeton	Sitka spruce/oxalis, swordfern-moist	902
Ecola	Sitka spruce/oxalis, swordfern-moist	902
31D:		
Tolovana	Sitka spruce/salmonberry-wet	903
Templeton	Sitka spruce/salmonberry-wet	903
31E:		
Tolovana	Sitka spruce/oxalis, swordfern-moist	902
Templeton	Sitka spruce/oxalis, swordfern-moist	902

Table 13.--Forestland Plant Association Groups--Continued

Map unit symbol and soil name	Plant association group name	Plant association group number
32D:		
Munsoncreek	Sitka spruce/salmonberry-wet	903
Flowerpot	Sitka spruce/salmonberry-wet	903
32E:		
Munsoncreek	Sitka spruce/salmonberry-wet	903
Templeton	Sitka spruce/salmonberry-wet	903
33D:		
Tolovana	Sitka spruce/salmonberry-wet	903
37D:		
Templeton	Sitka spruce/salmonberry-wet	903
Skipanon	Sitka spruce/salmonberry-wet	903
37E:		
Templeton	Sitka spruce/oxalis, swordfern-moist	902
Skipanon	Sitka spruce/oxalis, swordfern-moist	902
38E:		
Templeton	Sitka spruce/oxalis, swordfern-moist	902
Necanicum	Sitka spruce/oxalis, swordfern-moist	902
43F:		
Klistan	Western hemlock/Oregon grape-salal	1906
Harslow	Western hemlock/Oregon grape-salal	1906
Hemcross	Western hemlock/Oregon grape-salal	1906
44E:		
Klistan	Western hemlock/Oregon grape-salal	1906
Harslow	Western hemlock/Oregon grape-salal	1906
Rock outcrop	---	
44F:		
Harslow	Western hemlock/Oregon grape-salal	1906
Klistan	Western hemlock/Oregon grape-salal	1906
Rock outcrop	---	
45B:		
Hebo	Sitka spruce/salmonberry-wet	903
48D:		
Hemcross	Western hemlock/oxalis-swordfern-moist	1907
Klistan	Western hemlock/oxalis-swordfern-moist	1907
48E:		
Hemcross	Western hemlock/Oregon grape-salal	1906
Klistan	Western hemlock/Oregon grape-salal	1906

Table 13.--Forestland Plant Association Groups--Continued

Map unit symbol and soil name	Plant association group name	Plant association group number
50B:		
Walluski	Sitka spruce/salmonberry-wet	903
51B:		
Walluski	Sitka spruce/salmonberry-wet	903
Chitwood	Sitka spruce/salmonberry-wet	903
51C:		
Walluski	Sitka spruce/salmonberry-wet	903
Chitwood	Sitka spruce/salmonberry-wet	903
54B:		
Knappa	Sitka spruce/salmonberry-wet	903
55A:		
Histosols	Sitka spruce/wet non-forest	991
Water	---	
56B:		
Wolfer	Sitka spruce/oxalis, swordfern-moist	902
56C:		
Wolfer	Sitka spruce/oxalis, swordfern-moist	902
57B:		
Condorbridge	Sitka spruce/salmonberry-wet	903
57C:		
Condorbridge	Sitka spruce/salmonberry-wet	903
58C:		
Knappa	Sitka spruce/salmonberry-wet	903
59B:		
Chitwood	Sitka spruce/salmonberry-wet	903
Knappa	Sitka spruce/salmonberry-wet	903
60E:		
Caterl	Western hemlock/Alaska huckleberry/oxalis	1909
Laderly	Western hemlock/Alaska huckleberry/oxalis	1909
Rock outcrop	---	
60F:		
Laderly	Western hemlock/Alaska huckleberry/oxalis	1909
Caterl	Western hemlock/Alaska huckleberry/oxalis	1909
Rock outcrop	---	
61F:		
Laderly, south slopes	Western hemlock/Alaska huckleberry/oxalis	1909
Rock outcrop, south slopes	---	
Caterl, south slopes	Western hemlock/Alaska huckleberry/oxalis	1909

Table 13.--Forestland Plant Association Groups--Continued

Map unit symbol and soil name	Plant association group name	Plant association group number
62F:		
Rock outcrop	---	
Laderly	Western hemlock/Alaska huckleberry/oxalis	1909
70D:		
Murtip	Western hemlock/Alaska huckleberry/oxalis	1909
Caterl	Western hemlock/Alaska huckleberry/oxalis	1909
Laderly	Western hemlock/Alaska huckleberry/oxalis	1909
70E:		
Murtip	Western hemlock/Alaska huckleberry/oxalis	1909
Caterl	Western hemlock/Alaska huckleberry/oxalis	1909
Laderly	Western hemlock/Alaska huckleberry/oxalis	1909
71D:		
McMille	Western hemlock/Alaska huckleberry/oxalis	1909
Mutt	Western hemlock/Alaska huckleberry/oxalis	1909
72D:		
Caterl, clayey	Western hemlock/Alaska huckleberry/oxalis	1909
Murtip, clayey	Western hemlock/Alaska huckleberry/oxalis	1909
73A:		
Nehalem, frequent flooding	Sitka spruce/salmonberry-wet	903
74A:		
Nehalem, occasional flooding	Sitka spruce/salmonberry-wet	903
76A:		
Nestucca	Sitka spruce/salmonberry-wet	903
77A:		
Nestucca	Sitka spruce/salmonberry-wet	903
Brenner	Sitka spruce/salmonberry-wet	903
80B:		
Quillamook	Sitka spruce/salmonberry-wet	903
81B:		
Quillamook, gravelly substratum	Sitka spruce/salmonberry-wet	903
Quillamook	Sitka spruce/salmonberry-wet	903
81C:		
Quillamook, gravelly substratum	Sitka spruce/salmonberry-wet	903
Quillamook	Sitka spruce/salmonberry-wet	903
89A:		
Udifluvents	Sitka spruce/wet non-forest	991
Riverwash	---	
Water	---	

Table 13.--Forestland Plant Association Groups--Continued

Map unit symbol and soil name	Plant association group name	Plant association group number
90A:		
Yachats	Sitka spruce/salmonberry-wet	903
91A:		
Gauldy	Sitka spruce/salmonberry-wet	903
92A:		
Yachats	Sitka spruce/salmonberry-wet	903
Gauldy	Sitka spruce/salmonberry-wet	903
93B:		
Gauldy, occasional flooding	Sitka spruce/salmonberry-wet	903
Gauldy, rare flooding	Sitka spruce/salmonberry-wet	903
94B:		
Ginger	Sitka spruce/salmonberry-wet	903
Quillamook	Sitka spruce/salmonberry-wet	903
Urban land	---	
95B:		
Urban land	---	
Quillamook	Sitka spruce/salmonberry-wet	903
96B:		
Ginger	Sitka spruce/salmonberry-wet	903
Hebo	Sitka spruce/salmonberry-wet	903
99:		
Beaches	---	
100B:		
Urban land	---	
Udorthents	Sitka spruce/dry non-forest	971
101B:		
Urban land, flooded	---	
Udorthents, flooded	Sitka spruce/wet non-forest	991
102A:		
Fluvaquents, diked	Sitka spruce/wet non-forest	991
Histosols, diked	Sitka spruce/wet non-forest	991
103A:		
Coquille, diked	Sitka spruce/wet non-forest	991
104A:		
Coquille, protected	Sitka spruce/salmonberry-wet	903
Brenner, protected	Sitka spruce/salmonberry-wet	903
Nehalem, protected	Sitka spruce/salmonberry-wet	903

Table 13.--Forestland Plant Association Groups--Continued

Map unit symbol and soil name	Plant association group name	Plant association group number
110F:		
Waldport, thin surface	Sitka spruce/dry non-forest	971
115A:		
Aquepts	Sitka spruce/salmonberry-wet	903
116A:		
Aquepts, warm	Western hemlock/salmonberry-wet	1908
118B:		
Oxyaquic Hapludands, flood plains	Western hemlock/salmonberry-wet	1908
Alic Hapludands, terraces	Western hemlock/salmonberry-wet	1908
119B:		
Oxyaquic Fulvudands, flood plains	Sitka spruce/salmonberry-wet	903
Typic Fulvudands, terraces	Sitka spruce/salmonberry-wet	903
120C:		
Alic Hapludands, terraces	Western hemlock/salmonberry-wet	1908
Alic Hapludands, fans	Western hemlock/salmonberry-wet	1908
121D:		
Fendall	Sitka spruce/salmonberry-wet	903
Munsoncreek	Sitka spruce/salmonberry-wet	903
125B:		
Siletz	Sitka spruce/salmonberry-wet	903
126B:		
Siletz, warm	Sitka spruce/oxalis, swordfern-moist	902
127C:		
Condorbridge, warm	Sitka spruce/oxalis, swordfern-moist	902
128B:		
Siletz	Sitka spruce/salmonberry-wet	903
Wolfer	Sitka spruce/oxalis, swordfern-moist	902
144F:		
Harslow, south slopes	Western hemlock/Oregon grape-salal	1906
Rock outcrop, south slopes	---	
Klistan, south slopes	Western hemlock/Oregon grape-salal	1906
145F:		
Rock outcrop	---	
Harslow	Western hemlock/Oregon grape-salal	1906
156F:		
Sevencedars	Pacific silver fir/oxalis-high precipitation	2208
Newanna	Pacific silver fir/oxalis-high precipitation	2208
157D:		
Caterl, till substratum	Western hemlock/Alaska huckleberry/oxalis	1909

Table 13.--Forestland Plant Association Groups--Continued

Map unit symbol and soil name	Plant association group name	Plant association group number
157E:		
Caterl, till substratum	Western hemlock/Alaska huckleberry/oxalis	1909
157F:		
Caterl, till substratum	Western hemlock/Alaska huckleberry/oxalis	1909
158D:		
Sevencedars, till substratum	Pacific silver fir/oxalis-high precipitation	2208
158E:		
Sevencedars, till substratum	Pacific silver fir/oxalis-high precipitation	2208
158F:		
Sevencedars, till substratum	Pacific silver fir/oxalis-high precipitation	2208
159D:		
Sevencedars, clayey	Pacific silver fir/oxalis-high precipitation	2208
161D:		
Sevencedars	Pacific silver fir/oxalis-high precipitation	2208
Newanna	Pacific silver fir/oxalis-high precipitation	2208
Woodspoint	Pacific silver fir/oxalis-high precipitation	2208
161E:		
Sevencedars	Pacific silver fir/oxalis-high precipitation	2208
Newanna	Pacific silver fir/oxalis-high precipitation	2208
Woodspoint	Pacific silver fir/oxalis-high precipitation	2208
161F:		
Newanna	Pacific silver fir/oxalis-high precipitation	2208
Sevencedars	Pacific silver fir/oxalis-high precipitation	2208
Rock outcrop	---	
162D:		
Mosscreek	Western hemlock/Alaska huckleberry/oxalis	1909
Fawceter	Western hemlock/Alaska huckleberry/oxalis	1909
162E:		
Mosscreek	Western hemlock/Alaska huckleberry/oxalis	1909
Fawceter	Western hemlock/Alaska huckleberry/oxalis	1909
163F:		
Fawceter	Western hemlock/Alaska huckleberry/oxalis	1909
Killam	Western hemlock/Alaska huckleberry/oxalis	1909
Mosscreek	Western hemlock/Alaska huckleberry/oxalis	1909
164F:		
Killam	Western hemlock/Alaska huckleberry/oxalis	1909
Fawceter	Western hemlock/Alaska huckleberry/oxalis	1909
Rock outcrop	---	

Table 13.--Forestland Plant Association Groups--Continued

Map unit symbol and soil name	Plant association group name	Plant association group number
166F:		
Rock outcrop	---	
Killam	Western hemlock/Alaska huckleberry/oxalis	1909
170A:		
Logsden	Sitka spruce/salmonberry-wet	903
170B:		
Logsden	Sitka spruce/salmonberry-wet	903
Nehalem, occasional flooding	Sitka spruce/salmonberry-wet	903
173B:		
Tillamook	Sitka spruce/salmonberry-wet	903
Ginger	Sitka spruce/salmonberry-wet	903
173C:		
Tillamook	Sitka spruce/salmonberry-wet	903
Ginger	Sitka spruce/salmonberry-wet	903
174C:		
Typic Fulvudands, terraces	Sitka spruce/salmonberry-wet	903
Typic Fulvudands, fans	Sitka spruce/salmonberry-wet	903
175D:		
Astoria	Western hemlock/oxalis-swordfern-moist	1907
176D:		
Preacher	Western hemlock/oxalis-swordfern-moist	1907
Bohannon	Western hemlock/oxalis-swordfern-moist	1907
176E:		
Preacher	Western hemlock/Oregon grape-salal	1906
Bohannon	Western hemlock/Oregon grape-salal	1906
177B:		
Dystrudepts	Sitka spruce/salmonberry-wet	903
Aquepts	Sitka spruce/salmonberry-wet	903
178B:		
Fluventic Humic Dystrudepts	Sitka spruce/salmonberry-wet	903
Dystrudepts	Sitka spruce/salmonberry-wet	903
Aquepts	Sitka spruce/salmonberry-wet	903
180D:		
Salander	Sitka spruce/salmonberry-wet	903
180E:		
Salander	Sitka spruce/oxalis, swordfern-moist	902
Necanicum	Sitka spruce/oxalis, swordfern-moist	902

Table 13.--Forestland Plant Association Groups--Continued

Map unit symbol and soil name	Plant association group name	Plant association group number
180F:		
Salander	Sitka spruce/oxalis, swordfern-moist	902
Necanicum	Sitka spruce/oxalis, swordfern-moist	902
Neskowin	Sitka spruce/oxalis, swordfern-moist	902
181E:		
Neskowin	Sitka spruce/oxalis, swordfern-moist	902
Salander	Sitka spruce/oxalis, swordfern-moist	902
181F:		
Neskowin	Sitka spruce/oxalis, swordfern-moist	902
Rock outcrop	---	
Necanicum	Sitka spruce/oxalis, swordfern-moist	902
182D:		
Neotsu	Sitka spruce/salmonberry-wet	903
Salander	Sitka spruce/salmonberry-wet	903
183D:		
Winema	Sitka spruce/salmonberry-wet	903
Fendall	Sitka spruce/salmonberry-wet	903
185F:		
Udorthents, steep	Sitka spruce/salal-mesic	901
Rock outcrop	---	
190D:		
Mulkey	Pacific silver fir/non-forest, other	2281
191B:		
Siletz	Sitka spruce/salmonberry-wet	903
Euchre	Sitka spruce/salmonberry-wet	903
192A:		
Yachats, occasional flooding	Sitka spruce/salmonberry-wet	903
303F:		
Ascar	Sitka spruce/oxalis, swordfern-moist	902
Rock outcrop	---	
307F:		
Braun	Western hemlock/Oregon grape-salal	1906
Scaponia	Western hemlock/Oregon grape-salal	1906
309D:		
Caterl	Western hemlock/Alaska huckleberry/oxalis	1909
Laderly	Western hemlock/Alaska huckleberry/oxalis	1909
309E:		
Caterl	Western hemlock/Alaska huckleberry/oxalis	1909

Table 13.--Forestland Plant Association Groups--Continued

Map unit symbol and soil name	Plant association group name	Plant association group number
309E:		
Laderly	Western hemlock/Alaska huckleberry/oxalis	1909
314A:		
Croquib	Sitka spruce/salmonberry-wet	903
322F:		
Harslow	Western hemlock/Oregon grape-salal	1906
Kilchis	Western hemlock/Oregon grape-salal	1906
327:		
Dystrudepts, steep	Sitka spruce/oxalis, swordfern-moist	902
328:		
Dystrudepts	Sitka spruce/salmonberry-wet	903
Humaquepts, isomesic	Sitka spruce/salmonberry-wet	903
329F:		
Kilchis	Western hemlock/Oregon grape-salal	1906
Rock outcrop	---	
338F:		
Laderly	Western hemlock/Alaska huckleberry/oxalis	1909
Rock outcrop	---	
342D:		
McMille	Western hemlock/Alaska huckleberry/oxalis	1909
345A:		
Mues	Sitka spruce/salmonberry-wet	903
346D:		
Murtip	Western hemlock/Alaska huckleberry/oxalis	1909
347E:		
Murtip	Western hemlock/Alaska huckleberry/oxalis	1909
Caterl	Western hemlock/Alaska huckleberry/oxalis	1909
350E:		
Necanicum	Sitka spruce/oxalis, swordfern-moist	902
Ascar	Sitka spruce/oxalis, swordfern-moist	902
356D:		
Rinearson	Western hemlock/Oregon grape-salal	1906
357E:		
Scaponia	Western hemlock/Oregon grape-salal	1906
Braun	Western hemlock/Oregon grape-salal	1906
358D:		
Skipanon	Sitka spruce/salmonberry-wet	903
358E:		
Skipanon	Sitka spruce/oxalis, swordfern-moist	902

Table 13.--Forestland Plant Association Groups--Continued

Map unit symbol and soil name	Plant association group name	Plant association group number
359D:		
Svensen	Sitka spruce/salmonberry-wet	903
359E:		
Svensen	Sitka spruce/oxalis, swordfern-moist	902
363D:		
Tolke	Western hemlock/oxalis-swordfern-moist	1907
371C:		
Walluski	Sitka spruce/salmonberry-wet	903
403E:		
Astoria	Western hemlock/oxalis-swordfern-moist	1907
420E:		
Hembre	Western hemlock/Oregon grape-salal	1906
420F:		
Hembre	Western hemlock/Oregon grape-salal	1906
425E:		
Klickitat	Western hemlock/Oregon grape-salal	1906
433D:		
Melby	Western hemlock/Oregon grape-salal	1906
433E:		
Melby	Western hemlock/Oregon grape-salal	1906
439E:		
Tolke	Western hemlock/Oregon grape-salal	1906
501D:		
Apt	Western hemlock/oxalis-swordfern-moist	1907
McDuff	Western hemlock/oxalis-swordfern-moist	1907
501E:		
Apt	Western hemlock/Oregon grape-salal	1906
McDuff	Western hemlock/Oregon grape-salal	1906
517A:		
Euchre	Sitka spruce/salmonberry-wet	903
519D:		
Fendall	Sitka spruce/salmonberry-wet	903
Winema	Sitka spruce/salmonberry-wet	903
532D:		
Klootchie	Sitka spruce/salmonberry-wet	903
Neotsu	Sitka spruce/salmonberry-wet	903
532E:		
Klootchie	Sitka spruce/oxalis, swordfern-moist	902
Neotsu	Sitka spruce/oxalis, swordfern-moist	902

Table 13.--Forestland Plant Association Groups--Continued

Map unit symbol and soil name	Plant association group name	Plant association group number
543F:		
Neotsu	Sitka spruce/oxalis, swordfern-moist	902
Necanicum	Sitka spruce/oxalis, swordfern-moist	902
552F:		
Reedsport	Sitka spruce/oxalis, swordfern-moist	902
Tolovana	Sitka spruce/oxalis, swordfern-moist	902
555D:		
Templeton	Sitka spruce/salmonberry-wet	903
Fendall	Sitka spruce/salmonberry-wet	903
556D:		
Tolovana	Sitka spruce/salmonberry-wet	903
Reedsport	Sitka spruce/salmonberry-wet	903
556E:		
Tolovana	Sitka spruce/oxalis, swordfern-moist	902
Reedsport	Sitka spruce/oxalis, swordfern-moist	902
611B:		
Dystrudepts, warm	Western hemlock/oxalis-swordfern-moist	1907
Aquepts, warm	Western hemlock/salmonberry-wet	1908
Humaquepts, warm	Western hemlock/salmonberry-wet	1908
W:		
Water	---	

Table 14.--Dwellings and Small Commercial Buildings

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
1A:							
Brenner	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50	Shrink-swell	1.00	Shrink-swell	0.50
2A:							
Fluvaquents	60	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Histosols	35	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00	Subsidence	1.00	Organic matter content	1.00
		Subsidence	1.00	Shrink-swell	0.22	Subsidence	1.00
3A:							
Coquille	85	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
4D:							
Ginsberg	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
4E:							
Ginsberg	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Klistan	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to hard bedrock	0.88		
5E:							
Ferrelo	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
6D:							
Horseprairie	65	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Ferrelo	25	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
7:							
Dune land	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
8A:							
Depoe	85	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Depth to thin cemented pan	1.00	Depth to thin cemented pan	1.00
9B:							
Waldport	85	Not limited		Not limited		Not limited	
9C:							
Waldport	85	Not limited		Not limited		Very limited	
						Slope	1.00
9D:							
Waldport	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
9E:							
Waldport	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
10B:							
Waldport, thin surface	85	Not limited		Not limited		Not limited	
10C:							
Waldport, thin surface	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
10E:							
Waldport, thin surface	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
11B:							
Netarts	85	Not limited		Not limited		Not limited	
11C:							
Netarts	90	Not limited		Not limited		Very limited	
						Slope	1.00
11D:							
Netarts	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
11E:							
Netarts	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
12B:							
Yaquina	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
13B:							
Waldport, thin surface	70	Not limited		Not limited		Not limited	
Heceta	25	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
14A:							
Heceta	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
15B:							
Netarts	50	Not limited		Not limited		Not limited	
Yaquina	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
16F:							
Caterl	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to hard bedrock	0.18		
Laderly	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.46	Depth to hard bedrock	1.00	Depth to hard bedrock	0.46
Murtip	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
17B:							
Chitwood	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Hebo	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
18B:							
Chitwood	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
18C:							
Chitwood	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
		Slope	0.37	Slope	0.37	Shrink-swell	0.50
19E:							
Klootchie	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
20D:							
Klootchie	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Necanicum	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
20E:							
Klootchie	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Necanicum	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
21F:							
Necanicum	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Ascar	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones	0.71	Depth to hard bedrock	1.00	Large stones	0.71
				Large stones	0.71		
Klootchie	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
22F:							
Ascar	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones	0.71	Depth to hard bedrock	1.00	Large stones	0.71
				Large stones	0.71		
Necanicum	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Rock outcrop	20	Not rated		Not rated		Not rated	
23F:							
Rock outcrop	60	Not rated		Not rated		Not rated	
Ascar	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones	0.71	Depth to hard bedrock	1.00	Large stones	0.71
				Large stones	0.71		
24C:							
Lebam	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	0.88
						Shrink-swell	0.50
24D:							
Lebam	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
25E:							
Lebam	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Necanicum	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
26F:							
Lebam	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Necanicum	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
28D:							
Templeton	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Necanicum	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
29D:							
Templeton	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Klootchie	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
29E:							
Templeton	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Klootchie	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
30D:							
Templeton	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
30E:							
Templeton	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Ecola	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to soft bedrock	0.06		
30F:							
Templeton	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Ecola	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to soft bedrock	0.06		

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
31D:							
Tolovana	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Templeton	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
31E:							
Tolovana	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Templeton	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
32D:							
Munsoncreek	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Flowerpot	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
32E:							
Munsoncreek	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Templeton	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
33D:							
Tolovana	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
37D:							
Templeton	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Skipanon	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.22	Shrink-swell	0.22	Shrink-swell	0.22
37E:							
Templeton	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Skipanon	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.22	Shrink-swell	0.22	Shrink-swell	0.22
38E:							
Templeton	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
38E:							
Necanicum	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
43F:							
Klistan	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to hard bedrock	0.88		
Harslow	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.03	Depth to hard bedrock	1.00	Depth to hard bedrock	0.03
Hemcross	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
44E:							
Klistan	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to hard bedrock	0.88		
Harslow	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.03	Depth to hard bedrock	1.00	Depth to hard bedrock	0.03
Rock outcrop	20	Not rated		Not rated		Not rated	
44F:							
Harslow	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.03	Depth to hard bedrock	1.00	Depth to hard bedrock	0.03
Klistan	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to hard bedrock	0.88		
Rock outcrop	20	Not rated		Not rated		Not rated	
45B:							
Hebo	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
48D:							
Hemcross	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Klistan	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to hard bedrock	0.88		

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
48E:							
Hemcross	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Klistan	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to hard bedrock	0.88		
50B:							
Walluski	80	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.22	Depth to saturated zone	1.00	Shrink-swell	0.22
		Depth to saturated zone	0.07	Shrink-swell	0.22	Depth to saturated zone	0.07
51B:							
Walluski	45	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.22	Depth to saturated zone	1.00	Shrink-swell	0.22
		Depth to saturated zone	0.07	Shrink-swell	0.22	Depth to saturated zone	0.07
Chitwood	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
51C:							
Walluski	45	Somewhat limited		Very limited		Very limited	
		Shrink-swell	0.22	Depth to saturated zone	1.00	Slope	1.00
		Depth to saturated zone	0.07	Shrink-swell	0.22	Shrink-swell	0.22
		Slope	0.04	Slope	0.04	Depth to saturated zone	0.07
Chitwood	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
		Slope	0.04	Slope	0.04	Shrink-swell	0.50
54B:							
Knappa	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.44	Shrink-swell	0.44	Shrink-swell	0.44
55A:							
Histosols	55	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00	Subsidence	1.00	Organic matter content	1.00
		Subsidence	1.00	Shrink-swell	0.22	Subsidence	1.00
Water	45	Not rated		Not rated		Not rated	
56B:							
Wolfer	80	Not limited		Not limited		Not limited	
56C:							
Wolfer	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
57B:							
Condorbridge	85	Not limited		Not limited		Not limited	
57C:							
Condorbridge	80	Not limited		Not limited		Very limited	
						Slope	1.00
58C:							
Knappa	85	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.44	Shrink-swell	0.44	Slope	1.00
		Slope	0.04	Slope	0.04	Shrink-swell	0.44
59B:							
Chitwood	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Knappa	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.44	Shrink-swell	0.44	Shrink-swell	0.44
60E:							
Caterl	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to hard bedrock	0.18		
Laderly	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.46	Depth to hard bedrock	1.00	Depth to hard bedrock	0.46
Rock outcrop	25	Not rated		Not rated		Not rated	
60F:							
Laderly	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.46	Depth to hard bedrock	1.00	Depth to hard bedrock	0.46
Caterl	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to hard bedrock	0.18		
Rock outcrop	20	Not rated		Not rated		Not rated	
61F:							
Laderly, south slopes	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.46	Depth to hard bedrock	1.00	Depth to hard bedrock	0.46
Rock outcrop, south slopes	25	Not rated		Not rated		Not rated	
Caterl, south slopes	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to hard bedrock	0.18		

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
62F:							
Rock outcrop	60	Not rated		Not rated		Not rated	
Laderly	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.46	Depth to hard bedrock	1.00	Depth to hard bedrock	0.46
70D:							
Murtip	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Caterl	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to hard bedrock	0.18		
Laderly	15	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.46	Slope	1.00	Depth to hard bedrock	0.46
70E:							
Murtip	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Caterl	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to hard bedrock	0.18		
Laderly	15	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.46	Depth to hard bedrock	1.00	Depth to hard bedrock	0.46
71D:							
McMille	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Mutt	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Depth to soft bedrock	0.84	Shrink-swell	0.50
72D:							
Caterl, clayey	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones	0.26	Large stones	0.26	Large stones	0.26
				Depth to hard bedrock	0.18		
Murtip, clayey	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones	0.02	Large stones	0.02	Large stones	0.02
73A:							
Nehalem, frequent flooding	75	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
74A:							
Nehalem, occasional flooding	80	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
76A:							
Nestucca	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
77A:							
Nestucca	55	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Brenner	40	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50	Shrink-swell	1.00	Shrink-swell	0.50
80B:							
Quillamook	80	Not limited		Not limited		Not limited	
81B:							
Quillamook, gravelly substratum	60	Not limited		Not limited		Not limited	
Quillamook	25	Not limited		Not limited		Not limited	
81C:							
Quillamook, gravelly substratum	60	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Quillamook	25	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
89A:							
Udifluvents	40	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
Riverwash	30	Not rated		Not rated		Not rated	
Water	25	Not rated		Not rated		Not rated	
90A:							
Yachats	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
91A:							
Gauldy	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
92A:							
Yachats	45	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
92A:							
Gauldy	40	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
93B:							
Gauldy, occasional flooding	50	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
Gauldy, rare flooding	35	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
94B:							
Ginger	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
Quillamook	30	Not limited		Not limited		Not limited	
Urban land	30	Not rated		Not rated		Not rated	
95B:							
Urban land	55	Not rated		Not rated		Not rated	
Quillamook	30	Not limited		Not limited		Not limited	
96B:							
Ginger	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
Hebo	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
99:							
Beaches	95	Not rated		Not rated		Not rated	
100B:							
Urban land	65	Not rated		Not rated		Not rated	
Udorthents	25	Not limited		Not limited		Not limited	
101B:							
Urban land, flooded	65	Not rated		Not rated		Not rated	
Udorthents, flooded	25	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
102A:							
Fluvaquents, diked	60	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
102A:							
Histosols, diked	35	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00	Subsidence	1.00	Organic matter content	1.00
				Shrink-swell	0.22		
		Subsidence	1.00			Subsidence	1.00
103A:							
Coquille, diked	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
104A:							
Coquille, protected	50	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Brenner, protected	30	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50	Shrink-swell	1.00	Shrink-swell	0.50
Nehalem, protected	15	Not limited		Not limited		Not limited	
110F:							
Waldport, thin surface	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
115A:							
Aquepts	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
116A:							
Aquepts, warm	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.22	Shrink-swell	0.22	Shrink-swell	0.22
118B:							
Oxyaquic Hapludands, flood plains	45	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.24	Depth to saturated zone	1.00	Depth to saturated zone	0.24
Alic Hapludands, terraces	30	Not limited		Not limited		Not limited	

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
119B:							
Oxyaquic Fulvudands, flood plains	45	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.16	Depth to saturated zone	1.00	Depth to saturated zone	0.16
Typic Fulvudands, terraces	30	Not limited		Not limited		Not limited	
120C:							
Alic Hapludands, terraces	60	Not limited		Not limited		Somewhat limited	
						Slope	0.50
Alic Hapludands, fans	35	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
121D:							
Fendall	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
				Depth to soft bedrock	0.15		
Munsoncreek	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
125B:							
Siletz	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.22	Shrink-swell	0.22	Shrink-swell	0.22
126B:							
Siletz, warm	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.22	Shrink-swell	0.22	Shrink-swell	0.22
127C:							
Condorbridge, warm	80	Not limited		Not limited		Very limited	
						Slope	1.00
128B:							
Siletz	45	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.22	Shrink-swell	0.22	Shrink-swell	0.22
Wolfer	40	Not limited		Not limited		Not limited	
144F:							
Harslow, south slopes	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.03	Depth to hard bedrock	1.00	Depth to hard bedrock	0.03
Rock outcrop, south slopes	30	Not rated		Not rated		Not rated	

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
144F:							
Klistan, south slopes	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to hard bedrock	0.88		
145F:							
Rock outcrop	60	Not rated		Not rated		Not rated	
Harslow	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.03	Depth to hard bedrock	1.00	Depth to hard bedrock	0.03
156F:							
Sevencedars	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Newanna	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones	0.66	Depth to hard bedrock	1.00	Large stones	0.66
		Depth to hard bedrock	0.01	Large stones	0.66	Depth to hard bedrock	0.01
157D:							
Caterl, till substratum	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones	0.26	Large stones	0.26	Large stones	0.26
157E:							
Caterl, till substratum	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones	0.26	Large stones	0.26	Large stones	0.26
157F:							
Caterl, till substratum	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones	0.26	Large stones	0.26	Large stones	0.26
158D:							
Sevencedars, till substratum	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
158E:							
Sevencedars, till substratum	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
158F:							
Sevencedars, till substratum	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
159D:							
Sevencedars, clayey	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones	0.87	Large stones	0.87	Large stones	0.87
161D:							
Sevencedars	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Newanna	30	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Large stones	0.66	Slope	1.00	Large stones	0.66
		Depth to hard bedrock	0.01	Large stones	0.66	Depth to hard bedrock	0.01
Woodspoint	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to hard bedrock	0.54		
161E:							
Sevencedars	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Newanna	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones	0.66	Depth to hard bedrock	1.00	Large stones	0.66
		Depth to hard bedrock	0.01	Large stones	0.66	Depth to hard bedrock	0.01
Woodspoint	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to hard bedrock	0.54		
161F:							
Newanna	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones	0.66	Depth to hard bedrock	1.00	Large stones	0.66
		Depth to hard bedrock	0.01	Large stones	0.66	Depth to hard bedrock	0.01
Sevencedars	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Rock outcrop	20	Not rated		Not rated		Not rated	
162D:							
Mosscreek	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Fawceter	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to hard bedrock	0.02		
162E:							
Mosscreek	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
162E:							
Fawceter	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to hard bedrock	0.02		
163F:							
Fawceter	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to hard bedrock	0.02		
Killam	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.35	Depth to hard bedrock	1.00	Depth to hard bedrock	0.35
Mosscreek	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
164F:							
Killam	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.35	Depth to hard bedrock	1.00	Depth to hard bedrock	0.35
Fawceter	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to hard bedrock	0.02		
Rock outcrop	20	Not rated		Not rated		Not rated	
166F:							
Rock outcrop	60	Not rated		Not rated		Not rated	
Killam	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.35	Depth to hard bedrock	1.00	Depth to hard bedrock	0.35
170A:							
Logsden	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
170B:							
Logsden	50	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Nehalem, occasional flooding	40	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
173B:							
Tillamook	45	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.24	Depth to saturated zone	1.00	Depth to saturated zone	0.24
				Shrink-swell	0.22		

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
173B:							
Ginger	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
173C:							
Tillamook	45	Somewhat limited		Very limited		Very limited	
		Depth to saturated zone	0.24	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.04	Shrink-swell	0.22	Depth to saturated zone	0.24
				Slope	0.04		
Ginger	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Slope	0.04	Slope	0.04	Slope	1.00
174C:							
Typic Fulvudands, terraces	60	Not limited		Not limited		Somewhat limited	
						Slope	0.50
Typic Fulvudands, fans	35	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
175D:							
Astoria	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.22	Shrink-swell	0.22	Shrink-swell	0.22
176D:							
Preacher	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.22	Shrink-swell	0.22	Shrink-swell	0.22
Bohannon	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.22	Shrink-swell	0.22	Shrink-swell	0.22
				Depth to soft bedrock	0.01		
176E:							
Preacher	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.22	Shrink-swell	0.22	Shrink-swell	0.22
Bohannon	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.22	Shrink-swell	0.22	Shrink-swell	0.22
				Depth to soft bedrock	0.01		
177B:							
Dystrudepts	65	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.67	Depth to saturated zone	1.00	Depth to saturated zone	0.67
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
177B:							
Aquepts	30	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
178B:							
Fluventic Humic Dystrudepts	45	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
				Depth to saturated zone	0.97		
Dystrudepts	25	Not limited		Not limited		Not limited	
Aquepts	20	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
180D:							
Salander	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
180E:							
Salander	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Necanicum	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
180F:							
Salander	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Necanicum	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Neskowin	15	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.64	Depth to hard bedrock	1.00	Depth to hard bedrock	0.64
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
181E:							
Neskowin	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.64	Depth to hard bedrock	1.00	Depth to hard bedrock	0.64
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Salander	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
181F:							
Neskowin	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.64	Depth to hard bedrock	1.00	Depth to hard bedrock	0.64
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
181F:							
Rock outcrop--------	30	Not rated		Not rated		Not rated	
Necanicum-----------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
182D:							
Neotsu--------------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to soft bedrock	0.29		
Salander------------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
183D:							
Winema--------------	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Fendall-------------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
				Depth to soft bedrock	0.15		
185F:							
Udorthents, steep---	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to soft bedrock	0.95		
Rock outcrop--------	30	Not rated		Not rated		Not rated	
190D:							
Mulkey--------------	85	Somewhat limited		Very limited		Very limited	
		Depth to hard bedrock	0.79	Depth to hard bedrock	1.00	Slope	1.00
		Slope	0.63	Slope	0.63	Depth to hard bedrock	0.79
191B:							
Siletz--------------	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.22	Shrink-swell	0.22	Shrink-swell	0.22
Euchre--------------	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.22			Shrink-swell	0.22
192A:							
Yachats, occasional flooding-----------	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
303F:							
Ascar---------------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones	0.71	Depth to hard bedrock	1.00	Large stones	0.71
				Large stones	0.71		

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
303F:							
Rock outcrop	40	Not rated		Not rated		Not rated	
307F:							
Braun	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to soft bedrock	0.06		
Scaponia	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
309D:							
Caterl	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to hard bedrock	0.18		
Laderly	35	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.46	Slope	1.00	Depth to hard bedrock	0.46
309E:							
Caterl	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to hard bedrock	0.18		
Laderly	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.46	Depth to hard bedrock	1.00	Depth to hard bedrock	0.46
314A:							
Croquib	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50			Shrink-swell	0.50
322F:							
Harslow	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.03	Depth to hard bedrock	1.00	Depth to hard bedrock	0.03
327:							
Dystrudepts, steep	95	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to soft bedrock	0.06		
328:							
Dystrudepts	45	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
Humaquepts, isomesic	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.22	Shrink-swell	0.22	Shrink-swell	0.22

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
329F:							
Kilchis	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Large stones	0.09	Large stones	0.09	Large stones	0.09
Rock outcrop	35	Not rated		Not rated		Not rated	
338F:							
Laderly	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.46	Depth to hard bedrock	1.00	Depth to hard bedrock	0.46
Rock outcrop	35	Not rated		Not rated		Not rated	
342D:							
McMille	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
345A:							
Mues	85	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
		Depth to saturated zone	0.24	Shrink-swell	0.50	Depth to saturated zone	0.24
346D:							
Murtip	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
347E:							
Murtip	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Caterl	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to hard bedrock	0.18		
350E:							
Necanicum	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Ascar	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones	0.71	Depth to hard bedrock	1.00	Large stones	0.71
				Large stones	0.71		
356D:							
Rinearson	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
357E:							
Scaponia	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
357E:							
Braun	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to soft bedrock	0.06		
358D:							
Skipanon	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.22	Shrink-swell	0.22	Shrink-swell	0.22
358E:							
Skipanon	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.22	Shrink-swell	0.22	Shrink-swell	0.22
359D:							
Svensen	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
359E:							
Svensen	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
363D:							
Tolke	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
371C:							
Walluski	85	Somewhat limited		Very limited		Very limited	
		Slope	0.37	Depth to saturated zone	1.00	Slope	1.00
		Shrink-swell	0.22	Slope	0.37	Shrink-swell	0.22
		Depth to saturated zone	0.07	Shrink-swell	0.22	Depth to saturated zone	0.07
403E:							
Astoria	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.22	Shrink-swell	0.22	Shrink-swell	0.22
420E:							
Hembre	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Depth to hard bedrock	0.93	Shrink-swell	0.50
				Shrink-swell	0.50		
420F:							
Hembre	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Depth to hard bedrock	0.93	Shrink-swell	0.50
				Shrink-swell	0.50		
425E:							
Klickitat	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones	1.00	Large stones	1.00	Large stones	1.00
				Depth to hard bedrock	0.96		

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
433D:							
Melby	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
433E:							
Melby	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
439E:							
Tolke	70	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
501D:							
Apt	55	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
McDuff	30	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
				Depth to soft bedrock	0.03		
501E:							
Apt	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
McDuff	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
				Depth to soft bedrock	0.03		
517A:							
Euchre	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.22			Shrink-swell	0.22
519D:							
Fendall	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
				Depth to soft bedrock	0.15		
Winema	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
532D:							
Klootchie	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Neotsu	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to soft bedrock	0.29		

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
532E:							
Klootchie-----------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Neotsu--------------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to soft bedrock	0.29		
543F:							
Neotsu--------------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to soft bedrock	0.29		
Necanicum-----------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
552F:							
Reedsport-----------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
				Depth to soft bedrock	0.15		
Tolovana------------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
555D:							
Templeton-----------	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Fendall-------------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
				Depth to soft bedrock	0.15		
556D:							
Tolovana------------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Reedsport-----------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
				Depth to soft bedrock	0.15		
556E:							
Tolovana------------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Reedsport-----------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
				Depth to soft bedrock	0.15		

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
611B:							
Dystrudepts, warm	50	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.67	Depth to saturated zone	1.00	Depth to saturated zone	0.67
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Aquepts, warm	30	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Humaquepts, warm	15	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.22	Shrink-swell	0.22	Shrink-swell	0.22
W:							
Water	100	Not rated		Not rated		Not rated	

Table 15.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1A:							
Brenner	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Flooding	0.80	Depth to saturated zone	1.00
		Low strength	1.00	Too clayey	0.12		
		Shrink-swell	0.50	Unstable excavation walls	0.10		
2A:							
Fluvaquents	60	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Flooding	1.00	Flooding	1.00
		Flooding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Unstable excavation walls	1.00		
Histosols	35	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Flooding	1.00	Flooding	1.00
		Flooding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Subsidence	1.00	Organic matter content	1.00		
				Unstable excavation walls	0.10		
3A:							
Coquille	85	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Flooding	1.00	Flooding	1.00
		Flooding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Low strength	1.00	Unstable excavation walls	0.10		
4D:							
Ginsberg	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.50				
4E:							
Ginsberg	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.50				
Klistan	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Unstable excavation walls	1.00		
				Depth to hard bedrock	0.88		

Table 15.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
5E:							
Ferrelo	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Unstable excavation walls	1.00		
6D:							
Horseprairie	65	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Unstable excavation walls	1.00	Slope	0.63
		Shrink-swell	0.50	Slope	0.63		
Ferrelo	25	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Unstable excavation walls	1.00	Slope	0.63
				Slope	0.63		
7:							
Dune land	80	Very limited		Very limited		Not rated	
		Slope	1.00	Unstable excavation walls	1.00		
				Slope	1.00		
8A:							
Depoe	85	Very limited		Very limited		Very limited	
		Ponding	1.00	Depth to thin cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Depth to thin cemented pan	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Unstable excavation walls	1.00		
9B:							
Waldport	85	Not limited		Very limited		Very limited	
				Unstable excavation walls	1.00	Droughty	1.00
9C:							
Waldport	85	Not limited		Very limited		Very limited	
				Unstable excavation walls	1.00	Droughty	1.00
9D:							
Waldport	85	Very limited		Very limited		Very limited	
		Slope	1.00	Unstable excavation walls	1.00	Droughty	1.00
				Slope	1.00	Slope	1.00
9E:							
Waldport	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Unstable excavation walls	1.00	Droughty	1.00
10B:							
Waldport, thin surface	85	Not limited		Very limited		Very limited	
				Unstable excavation walls	1.00	Droughty	1.00

Table 15.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
10C:							
Waldport, thin surface	90	Somewhat limited		Very limited		Very limited	
		Slope	0.04	Unstable excavation walls	1.00	Droughty	1.00
				Slope	0.04	Slope	0.04
10E:							
Waldport, thin surface	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Unstable excavation walls	1.00	Droughty	1.00
11B:							
Netarts	85	Not limited		Very limited		Somewhat limited	
				Unstable excavation walls	1.00	Droughty	0.35
11C:							
Netarts	90	Not limited		Very limited		Somewhat limited	
				Unstable excavation walls	1.00	Droughty	0.35
11D:							
Netarts	90	Very limited		Very limited		Very limited	
		Slope	1.00	Unstable excavation walls	1.00	Slope	1.00
				Slope	1.00	Droughty	0.35
11E:							
Netarts	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Unstable excavation walls	1.00	Droughty	0.35
12B:							
Yaquina	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Unstable excavation walls	1.00	Droughty	0.42
13B:							
Waldport, thin surface	70	Not limited		Very limited		Very limited	
				Unstable excavation walls	1.00	Droughty	1.00
Heceta	25	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Unstable excavation walls	1.00	Droughty	0.33
14A:							
Heceta	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Unstable excavation walls	1.00	Droughty	0.33

Table 15.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
15B:							
Netarts	50	Not limited		Very limited		Somewhat limited	
				Unstable excavation walls	1.00	Droughty	0.35
Yaquina	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Unstable excavation walls	1.00	Droughty	0.42
16F:							
Caterl	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Unstable excavation walls	1.00		
				Depth to hard bedrock	0.18		
Laderly	25	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Frost action	0.50			Depth to bedrock	0.46
		Depth to hard bedrock	0.46	Slope	1.00		
				Unstable excavation walls	1.00		
Murtip	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Unstable excavation walls	1.00		
17B:							
Chitwood	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Low strength	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.50				
				Too clayey	0.02		
Hebo	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Low strength	1.00	Too clayey	0.12		
		Shrink-swell	0.50	Unstable excavation walls	0.10		
18B:							
Chitwood	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Low strength	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.50				
				Too clayey	0.02		

Table 15.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
18C:							
Chitwood	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Low strength	1.00	Slope	0.37	Slope	0.37
		Shrink-swell	0.50	Unstable excavation walls	0.10		
		Slope	0.37	Too clayey	0.02		
19E:							
Klootchie	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Unstable excavation walls	0.10		
20D:							
Klootchie	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Unstable excavation walls	0.10		
Necanicum	25	Very limited		Very limited		Very limited	
		Slope	1.00	Unstable excavation walls	1.00	Slope	1.00
				Slope	1.00		
20E:							
Klootchie	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Unstable excavation walls	0.10		
Necanicum	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Unstable excavation walls	1.00		
21F:							
Necanicum	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Unstable excavation walls	1.00		
Ascar	25	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Large stones	0.71	Slope	1.00		
				Large stones	0.71		
				Unstable excavation walls	0.10		
Klootchie	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Unstable excavation walls	0.10		

Table 15.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
22F:							
Ascar	35	Very limited Slope Large stones	 1.00 0.71	Very limited Depth to hard bedrock Slope Large stones Unstable excavation walls	 1.00 1.00 0.71 0.10	Very limited Slope	 1.00
Necanicum	30	Very limited Slope	 1.00	Very limited Slope Unstable excavation walls	 1.00 1.00	Very limited Slope	 1.00
Rock outcrop	20	Not rated		Not rated		Not rated	
23F:							
Rock outcrop	60	Not rated		Not rated		Not rated	
Ascar	25	Very limited Slope Large stones	 1.00 0.71	Very limited Depth to hard bedrock Slope Large stones Unstable excavation walls	 1.00 1.00 0.71 0.10	Very limited Slope	 1.00
24C:							
Lebam	85	Very limited Low strength Shrink-swell	 1.00 0.50	Somewhat limited Unstable excavation walls	 0.10	Not limited	
24D:							
Lebam	85	Very limited Low strength Slope Shrink-swell	 1.00 1.00 0.50	Very limited Slope Unstable excavation walls	 1.00 0.10	Very limited Slope	 1.00
25E:							
Lebam	60	Very limited Slope Low strength Shrink-swell	 1.00 1.00 0.50	Very limited Slope Unstable excavation walls	 1.00 0.10	Very limited Slope	 1.00
Necanicum	20	Very limited Slope	 1.00	Very limited Slope Unstable excavation walls	 1.00 1.00	Very limited Slope	 1.00
26F:							
Lebam	55	Very limited Slope Low strength Shrink-swell	 1.00 1.00 0.50	Very limited Slope Unstable excavation walls	 1.00 0.10	Very limited Slope	 1.00
Necanicum	25	Very limited Slope	 1.00	Very limited Slope Unstable excavation walls	 1.00 1.00	Very limited Slope	 1.00

Table 15.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
28D:							
Templeton	60	Very limited		Very limited		Very limited	
		Low strength	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Unstable excavation walls	0.10		
Necanicum	25	Very limited		Very limited		Very limited	
		Slope	1.00	Unstable excavation walls	1.00	Slope	1.00
				Slope	1.00		
29D:							
Templeton	50	Very limited		Very limited		Very limited	
		Low strength	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Unstable excavation walls	0.10		
Klootchie	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Unstable excavation walls	0.10		
29E:							
Templeton	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Unstable excavation walls	0.10		
Klootchie	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Unstable excavation walls	0.10		
30D:							
Templeton	85	Very limited		Very limited		Very limited	
		Low strength	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Unstable excavation walls	0.10		
30E:							
Templeton	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Unstable excavation walls	0.10		
Ecola	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Unstable excavation walls	0.10	Depth to bedrock	0.06
				Depth to soft bedrock	0.06		
30F:							
Templeton	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Unstable excavation walls	0.10		

Table 15.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
30F:							
Ecola	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Unstable excavation walls	0.10	Depth to bedrock	0.06
				Depth to soft bedrock	0.06		
31D:							
Tolovana	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.50				
Templeton	40	Very limited		Very limited		Very limited	
		Low strength	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Unstable excavation walls	0.10		
31E:							
Tolovana	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.50				
Templeton	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Unstable excavation walls	0.10		
32D:							
Munsoncreek	65	Very limited		Very limited		Very limited	
		Low strength	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.50				
Flowerpot	20	Very limited		Very limited		Very limited	
		Low strength	1.00	Depth to saturated zone	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Depth to saturated zone	0.96
		Shrink-swell	1.00	Unstable excavation walls	0.10		
		Depth to saturated zone	0.96				
32E:							
Munsoncreek	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.50				
Templeton	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Unstable excavation walls	0.10		
33D:							
Tolovana	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.50				

Table 15.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
37D:							
Templeton-----------	45	Very limited		Very limited		Very limited	
		Low strength	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Unstable excavation walls	0.10		
Skipanon------------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Unstable excavation walls	1.00	Slope	1.00
		Shrink-swell	0.22	Slope	1.00		
37E:							
Templeton-----------	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Unstable excavation walls	0.10		
Skipanon------------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.22	Unstable excavation walls	1.00		
38E:							
Templeton-----------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Unstable excavation walls	0.10		
Necanicum-----------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Unstable excavation walls	1.00		
43F:							
Klistan-------------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Unstable excavation walls	1.00		
				Depth to hard bedrock	0.88		
Harslow-------------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.03	Slope	1.00	Depth to bedrock	0.03
				Unstable excavation walls	1.00		
Hemcross------------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	0.22	Unstable excavation walls	0.10		
44E:							
Klistan-------------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Unstable excavation walls	1.00		
				Depth to hard bedrock	0.88		

Table 15.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
44E:							
Harslow	30	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.03	Slope	1.00	Depth to bedrock	0.03
				Unstable excavation walls	1.00		
Rock outcrop	20	Not rated		Not rated		Not rated	
44F:							
Harslow	35	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.03	Slope	1.00	Depth to bedrock	0.03
				Unstable excavation walls	1.00		
Klistan	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Unstable excavation walls	1.00		
				Depth to hard bedrock	0.88		
Rock outcrop	20	Not rated		Not rated		Not rated	
45B:							
Hebo	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Low strength	1.00	Too clayey	0.12		
		Shrink-swell	0.50	Unstable excavation walls	0.10		
48D:							
Hemcross	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	0.22	Unstable excavation walls	0.10		
Klistan	25	Very limited		Very limited		Very limited	
		Slope	1.00	Unstable excavation walls	1.00	Slope	1.00
				Slope	1.00		
				Depth to hard bedrock	0.88		
48E:							
Hemcross	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	0.22	Unstable excavation walls	0.10		
Klistan	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Unstable excavation walls	1.00		
				Depth to hard bedrock	0.88		

Table 15.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
50B:							
Walluski	80	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.03
		Shrink-swell	0.22	Unstable excavation walls	0.10		
		Depth to saturated zone	0.03				
51B:							
Walluski	45	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.03
		Shrink-swell	0.22	Unstable excavation walls	0.10		
		Depth to saturated zone	0.03				
Chitwood	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Low strength	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.50	Too clayey	0.02		
51C:							
Walluski	45	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Slope	0.04
		Shrink-swell	0.22	Unstable excavation walls	0.10	Depth to saturated zone	0.03
		Slope	0.04	Slope	0.04		
		Depth to saturated zone	0.03				
Chitwood	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Low strength	1.00	Unstable excavation walls	0.10	Slope	0.04
		Shrink-swell	0.50	Slope	0.04		
		Slope	0.04	Too clayey	0.02		
54B:							
Knappa	85	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.44				
55A:							
Histosols	55	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Flooding	1.00	Flooding	1.00
		Flooding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Subsidence	1.00	Unstable excavation walls	0.10		
Water	45	Not rated		Not rated		Not rated	
56B:							
Wolfer	80	Very limited		Very limited		Not limited	
		Low strength	1.00	Unstable excavation walls	1.00		

Table 15.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
56C: Wolfer	85	Very limited Low strength Slope	 1.00 0.04	Very limited Unstable excavation walls Slope	 1.00 0.04	Somewhat limited Slope	 0.04
57B: Condorbridge	85	Not limited		Very limited Unstable excavation walls	 1.00	Somewhat limited Gravel	 0.08
57C: Condorbridge	80	Not limited		Very limited Unstable excavation walls	 1.00	Somewhat limited Gravel	 0.08
58C: Knappa	85	Very limited Low strength Shrink-swell Slope	 1.00 0.44 0.04	Somewhat limited Unstable excavation walls Slope	 0.10 0.04	Somewhat limited Slope	 0.04
59B: Chitwood	45	Very limited Depth to saturated zone Low strength Shrink-swell	 1.00 1.00 0.50	Very limited Depth to saturated zone Unstable excavation walls Too clayey	 1.00 0.10 0.02	Very limited Depth to saturated zone	 1.00
Knappa	40	Very limited Low strength Shrink-swell	 1.00 0.44	Somewhat limited Unstable excavation walls	 0.10	Not limited	
60E: Caterl	35	Very limited Slope Frost action	 1.00 0.50	Very limited Slope Unstable excavation walls Depth to hard bedrock	 1.00 1.00 0.18	Very limited Slope	 1.00
Laderly	30	Very limited Slope Frost action Depth to hard bedrock	 1.00 0.50 0.46	Very limited Depth to hard bedrock Slope Unstable excavation walls	 1.00 1.00 1.00	Very limited Slope Depth to bedrock	 1.00 0.46
Rock outcrop	25	Not rated		Not rated		Not rated	
60F: Laderly	35	Very limited Slope Frost action Depth to hard bedrock	 1.00 0.50 0.46	Very limited Depth to hard bedrock Slope Unstable excavation walls	 1.00 1.00 1.00	Very limited Slope Depth to bedrock	 1.00 0.46

Table 15.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
60F:							
Caterl	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Unstable excavation walls	1.00		
				Depth to hard bedrock	0.18		
Rock outcrop	20	Not rated		Not rated		Not rated	
61F:							
Laderly, south slopes	40	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Frost action	0.50	Slope	1.00	Depth to bedrock	0.46
		Depth to hard bedrock	0.46	Unstable excavation walls	1.00		
Rock outcrop, south slopes	25	Not rated		Not rated		Not rated	
Caterl, south slopes	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Unstable excavation walls	1.00		
				Depth to hard bedrock	0.18		
62F:							
Rock outcrop	60	Not rated		Not rated		Not rated	
Laderly	25	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Frost action	0.50	Slope	1.00	Depth to bedrock	0.46
		Depth to hard bedrock	0.46	Unstable excavation walls	1.00		
70D:							
Murtip	45	Very limited		Very limited		Very limited	
		Slope	1.00	Unstable excavation walls	1.00	Slope	1.00
		Frost action	0.50	Slope	1.00		
Caterl	30	Very limited		Very limited		Very limited	
		Slope	1.00	Unstable excavation walls	1.00	Slope	1.00
		Frost action	0.50	Slope	1.00		
				Depth to hard bedrock	0.18		
Laderly	15	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Frost action	0.50	Unstable excavation walls	1.00	Depth to bedrock	0.46
		Depth to hard bedrock	0.46	Slope	1.00		

Table 15.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
70E:							
Murtip	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Unstable excavation walls	1.00		
Caterl	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Unstable excavation walls	1.00		
				Depth to hard bedrock	0.18		
Laderly	15	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Frost action	0.50			Depth to bedrock	0.46
		Depth to hard bedrock	0.46	Slope	1.00		
				Unstable excavation walls	1.00		
71D:							
McMille	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.50				
		Frost action	0.50				
Mutt	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Depth to soft bedrock	0.84	Depth to bedrock	0.84
		Shrink-swell	0.50				
		Frost action	0.50	Unstable excavation walls	0.10		
72D:							
Caterl, clayey	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Large stones	0.26		
		Large stones	0.26	Depth to hard bedrock	0.18		
				Unstable excavation walls	0.10		
Murtip, clayey	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Unstable excavation walls	0.10		
		Low strength	0.22				
		Large stones	0.02	Large stones	0.02		
73A:							
Nehalem, frequent flooding	75	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Flooding	0.80	Flooding	1.00
				Unstable excavation walls	0.10		
74A:							
Nehalem, occasional flooding	80	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Flooding	0.80	Flooding	1.00
				Unstable excavation walls	0.10		

Table 15.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
76A:							
Nestucca	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Low strength	1.00	Flooding	0.80	Depth to saturated zone	0.96
		Depth to saturated zone	0.96	Unstable excavation walls	0.10		
		Shrink-swell	0.50	Too clayey	0.02		
77A:							
Nestucca	55	Very limited		Very limited		Very limited	
		Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Low strength	1.00	Flooding	0.80	Depth to saturated zone	0.96
		Depth to saturated zone	0.96	Unstable excavation walls	0.10		
		Shrink-swell	0.50	Too clayey	0.02		
Brenner	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Flooding	0.80	Depth to saturated zone	1.00
		Low strength	1.00	Too clayey	0.12		
		Shrink-swell	0.50	Unstable excavation walls	0.10		
80B:							
Quillamook	80	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Unstable excavation walls	0.10		
81B:							
Quillamook, gravelly substratum	60	Not limited		Very limited		Not limited	
				Unstable excavation walls	1.00		
Quillamook	25	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Unstable excavation walls	0.10		
81C:							
Quillamook, gravelly substratum	60	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.04	Unstable excavation walls	1.00	Slope	0.04
				Slope	0.04		
Quillamook	25	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Unstable excavation walls	0.10	Slope	0.04
		Slope	0.04	Slope	0.04		
89A:							
Udifluvents	40	Very limited		Very limited		Very limited	
		Flooding	1.00	Unstable excavation walls	1.00	Flooding	1.00
				Flooding	0.80		
Riverwash	30	Not rated		Not rated		Not rated	

Table 15.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
89A:							
Water	25	Not rated		Not rated		Not rated	
90A:							
Yachats	85	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Flooding	0.80	Flooding	1.00
				Unstable excavation walls	0.10		
91A:							
Gauldy	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Unstable excavation walls	1.00	Flooding	1.00
				Flooding	0.80		
92A:							
Yachats	45	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Flooding	0.80	Flooding	1.00
				Unstable excavation walls	0.10		
Gauldy	40	Very limited		Very limited		Very limited	
		Flooding	1.00	Unstable excavation walls	1.00	Flooding	1.00
				Flooding	0.80		
93B:							
Gauldy, occasional flooding	50	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Unstable excavation walls	1.00	Flooding	0.60
				Flooding	0.60		
Gauldy, rare flooding	35	Somewhat limited		Very limited		Not limited	
		Flooding	0.40	Unstable excavation walls	1.00		
94B:							
Ginger	35	Very limited		Very limited		Somewhat limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.83
		Low strength	1.00	Unstable excavation walls	1.00		
		Depth to saturated zone	0.83	Too clayey	0.12		
Quillamook	30	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Unstable excavation walls	0.10		
Urban land	30	Not rated		Not rated		Not rated	
95B:							
Urban land	55	Not rated		Not rated		Not rated	
Quillamook	30	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Unstable excavation walls	0.10		

Table 15.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
96B:							
Ginger	40	Very limited		Very limited		Somewhat limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.83
		Low strength	1.00	Unstable excavation walls	1.00		
		Depth to saturated zone	0.83	Too clayey	0.12		
Hebo	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Low strength	1.00	Too clayey	0.12		
		Shrink-swell	0.50	Unstable excavation walls	0.10		
99:							
Beaches	95	Not rated		Not rated		Not rated	
100B:							
Urban land	65	Not rated		Not rated		Not rated	
Udorthents	25	Not limited		Very limited		Somewhat limited	
				Unstable excavation walls	1.00	Gravel	0.92
						Droughty	0.91
101B:							
Urban land, flooded	65	Not rated		Not rated		Not rated	
Udorthents, flooded	25	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.96
		Depth to saturated zone	0.96	Unstable excavation walls	1.00	Gravel	0.92
				Flooding	0.60	Droughty	0.91
						Flooding	0.60
102A:							
Fluvaquents, diked	60	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Unstable excavation walls	1.00	Depth to saturated zone	1.00
				Flooding	0.80		
Histosols, diked	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Flooding	0.80	Depth to saturated zone	1.00
		Subsidence	1.00	Unstable excavation walls	0.10		
103A:							
Coquille, diked	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Flooding	0.80	Depth to saturated zone	1.00
		Low strength	1.00	Unstable excavation walls	0.10		

Table 15.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
104A:							
Coquille, protected	50	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.96
		Depth to saturated zone	0.96	Unstable excavation walls	0.10		
		Flooding	0.40				
Brenner, protected--	30	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.96
		Depth to saturated zone	0.96	Too clayey	0.12		
		Shrink-swell	0.50	Unstable excavation walls	0.10		
		Flooding	0.40				
Nehalem, protected--	15	Not limited		Somewhat limited		Not limited	
				Unstable excavation walls	0.10		
110F:							
Waldport, thin surface------------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Unstable excavation walls	1.00	Droughty	1.00
115A:							
Aquepts-------------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Flooding	0.80	Depth to saturated zone	1.00
		Low strength	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.50				
116A:							
Aquepts, warm-------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Flooding	0.80	Depth to saturated zone	1.00
		Low strength	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.22				
118B:							
Oxyaquic Hapludands, flood plains-------------	45	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	1.00	Flooding	0.60
		Depth to saturated zone	0.12	Unstable excavation walls	1.00	Depth to saturated zone	0.12
				Flooding	0.60		
Alic Hapludands, terraces-----------	30	Not limited		Very limited		Not limited	
				Unstable excavation walls	1.00		

Table 15.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
119B:							
Oxyaquic Fulvudands, flood plains	45	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	1.00	Flooding	0.60
		Depth to saturated zone	0.08	Unstable excavation walls	1.00	Depth to saturated zone	0.08
				Flooding	0.60		
Typic Fulvudands, terraces	30	Not limited		Somewhat limited		Not limited	
				Unstable excavation walls	0.10		
120C:							
Alic Hapludands, terraces	60	Not limited		Very limited		Not limited	
				Unstable excavation walls	1.00		
Alic Hapludands, fans	35	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.37	Unstable excavation walls	1.00	Slope	0.37
				Slope	0.37		
121D:							
Fendall	50	Very limited		Very limited		Very limited	
		Low strength	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to soft bedrock	0.15	Depth to bedrock	0.16
		Shrink-swell	0.50	Unstable excavation walls	0.10		
Munsoncreek	30	Very limited		Very limited		Very limited	
		Low strength	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.50				
125B:							
Siletz	80	Very limited		Very limited		Not limited	
		Low strength	1.00	Unstable excavation walls	1.00		
		Shrink-swell	0.22				
126B:							
Siletz, warm	80	Somewhat limited		Very limited		Not limited	
		Shrink-swell	0.22	Unstable excavation walls	1.00		
		Low strength	0.10				
127C:							
Condorbridge, warm	80	Not limited		Very limited		Somewhat limited	
				Unstable excavation walls	1.00	Gravel	0.08
128B:							
Siletz	45	Very limited		Very limited		Not limited	
		Low strength	1.00	Unstable excavation walls	1.00		
		Shrink-swell	0.22				

Table 15.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
128B:							
Wolfer	40	Very limited		Very limited		Not limited	
		Low strength	1.00	Unstable excavation walls	1.00		
144F:							
Harslow, south slopes	40	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.03	Slope	1.00	Depth to bedrock	0.03
				Unstable excavation walls	1.00		
Rock outcrop, south slopes	30	Not rated		Not rated		Not rated	
Klistan, south slopes	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Unstable excavation walls	1.00		
				Depth to hard bedrock	0.88		
145F:							
Rock outcrop	60	Not rated		Not rated		Not rated	
Harslow	25	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.03	Slope	1.00	Depth to bedrock	0.03
				Unstable excavation walls	1.00		
156F:							
Sevencedars	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	1.00	Unstable excavation walls	1.00		
Newanna	30	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Frost action	1.00	Slope	1.00	Depth to bedrock	0.01
		Large stones	0.66	Large stones	0.66		
		Depth to hard bedrock	0.01	Unstable excavation walls	0.10		
157D:							
Caterl, till substratum	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Large stones	0.26		
		Large stones	0.26	Unstable excavation walls	0.10		

Table 15.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
157E:							
Caterl, till substratum	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Large stones	0.26		
		Large stones	0.26	Unstable excavation walls	0.10		
157F:							
Caterl, till substratum	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Large stones	0.26		
		Large stones	0.26	Unstable excavation walls	0.10		
158D:							
Sevencedars, till substratum	80	Very limited		Very limited		Very limited	
		Frost action	1.00	Unstable excavation walls	1.00	Slope	1.00
		Slope	1.00	Slope	1.00		
158E:							
Sevencedars, till substratum	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	1.00	Unstable excavation walls	1.00		
158F:							
Sevencedars, till substratum	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	1.00	Unstable excavation walls	1.00		
159D:							
Sevencedars, clayey	85	Very limited		Very limited		Very limited	
		Frost action	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Large stones	0.87		
		Large stones	0.87	Unstable excavation walls	0.10		
161D:							
Sevencedars	35	Very limited		Very limited		Very limited	
		Frost action	1.00	Unstable excavation walls	1.00	Slope	1.00
		Slope	1.00	Slope	1.00		
Newanna	30	Very limited		Very limited		Very limited	
		Frost action	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Depth to bedrock	0.01
		Large stones	0.66	Large stones	0.66		
		Depth to hard bedrock	0.01	Unstable excavation walls	0.10		

Table 15.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
161D:							
Woodspoint----------	25	Very limited		Very limited		Very limited	
		Frost action	1.00	Unstable excavation walls	1.00	Slope	1.00
		Slope	1.00	Slope	1.00		
				Depth to hard bedrock	0.54		
161E:							
Sevencedars---------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	1.00	Unstable excavation walls	1.00		
Newanna-------------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Frost action	1.00			Depth to bedrock	0.01
		Large stones	0.66	Slope	1.00		
		Depth to hard bedrock	0.01	Large stones	0.66		
				Unstable excavation walls	0.10		
Woodspoint----------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	1.00	Unstable excavation walls	1.00		
				Depth to hard bedrock	0.54		
161F:							
Newanna-------------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Frost action	1.00			Depth to bedrock	0.01
		Large stones	0.66	Slope	1.00		
		Depth to hard bedrock	0.01	Large stones	0.66		
				Unstable excavation walls	0.10		
Sevencedars---------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	1.00	Unstable excavation walls	1.00		
Rock outcrop--------	20	Not rated		Not rated		Not rated	
162D:							
Mosscreek-----------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Unstable excavation walls	1.00	Slope	1.00
		Frost action	0.50				
		Low strength	0.22	Slope	1.00		
Fawceter------------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Unstable excavation walls	1.00	Slope	1.00
		Frost action	0.50				
				Slope	1.00		
				Depth to hard bedrock	0.02		

Table 15.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
162E:							
Mosscreek-----------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Unstable excavation walls	1.00		
		Low strength	0.22				
Fawceter------------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Unstable excavation walls	1.00		
				Depth to hard bedrock	0.02		
163F:							
Fawceter------------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Unstable excavation walls	1.00		
				Depth to hard bedrock	0.02		
Killam--------------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Frost action	0.50	Slope	1.00	Depth to bedrock	0.35
		Depth to hard bedrock	0.35	Unstable excavation walls	1.00		
Mosscreek-----------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Unstable excavation walls	1.00		
		Low strength	0.22				
164F:							
Killam--------------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Frost action	0.50	Slope	1.00	Depth to bedrock	0.35
		Depth to hard bedrock	0.35	Unstable excavation walls	1.00		
Fawceter------------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Unstable excavation walls	1.00		
				Depth to hard bedrock	0.02		
Rock outcrop--------	20	Not rated		Not rated		Not rated	
166F:							
Rock outcrop--------	60	Not rated		Not rated		Not rated	
Killam--------------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Frost action	0.50	Slope	1.00	Depth to bedrock	0.35
		Depth to hard bedrock	0.35	Unstable excavation walls	1.00		

Table 15.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
170A:							
Logsden	85	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.50				
		Flooding	0.40				
170B:							
Logsden	50	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.50				
		Flooding	0.40				
Nehalem, occasional flooding	40	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Flooding	0.80	Flooding	1.00
				Unstable excavation walls	0.10		
173B:							
Tillamook	45	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.12
		Depth to saturated zone	0.12	Unstable excavation walls	0.10		
Ginger	40	Very limited		Very limited		Somewhat limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.83
		Low strength	1.00	Unstable excavation walls	1.00		
		Depth to saturated zone	0.83	Too clayey	0.12		
173C:							
Tillamook	45	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.12
		Depth to saturated zone	0.12	Unstable excavation walls	0.10	Slope	0.04
		Slope	0.04	Slope	0.04		
Ginger	40	Very limited		Very limited		Somewhat limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.83
		Low strength	1.00	Unstable excavation walls	1.00	Slope	0.04
		Depth to saturated zone	0.83	Too clayey	0.12		
		Slope	0.04	Slope	0.04		
174C:							
Typic Fulvudands, terraces	60	Not limited		Somewhat limited		Not limited	
				Unstable excavation walls	0.10		
Typic Fulvudands, fans	35	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.37	Unstable excavation walls	1.00	Slope	0.37
				Slope	0.37		

Table 15.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
175D:							
Astoria	80	Very limited		Very limited		Very limited	
		Low strength	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.22				
176D:							
Preacher	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.22				
Bohannon	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.22	Unstable excavation walls	0.10	Depth to bedrock	0.01
		Low strength	0.22	Depth to soft bedrock	0.01		
176E:							
Preacher	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.22				
Bohannon	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.22	Unstable excavation walls	0.10	Depth to bedrock	0.01
		Low strength	0.22	Depth to soft bedrock	0.01		
177B:							
Dystrudepts	65	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.35
		Shrink-swell	0.50	Too clayey	0.88		
		Depth to saturated zone	0.35	Unstable excavation walls	0.10		
Aquepts	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Flooding	0.80	Depth to saturated zone	1.00
		Low strength	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.50	Too clayey	0.02		
178B:							
Fluventic Humic Dystrudepts	45	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Depth to saturated zone	0.97	Flooding	1.00
				Flooding	0.80		
				Unstable excavation walls	0.10		
Dystrudepts	25	Not limited		Somewhat limited		Not limited	
				Unstable excavation walls	0.10		

Table 15.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
178B:							
Aquepts	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Flooding	0.80	Depth to saturated zone	1.00
		Low strength	1.00	Unstable excavation walls	0.10		
180D:							
Salander	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Unstable excavation walls	0.10		
180E:							
Salander	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Unstable excavation walls	0.10		
Necanicum	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Unstable excavation walls	1.00		
180F:							
Salander	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Unstable excavation walls	0.10		
Necanicum	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Unstable excavation walls	1.00		
Neskowin	15	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.64	Slope	1.00	Depth to bedrock	0.65
		Shrink-swell	0.50	Unstable excavation walls	1.00		
181E:							
Neskowin	60	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.64	Slope	1.00	Depth to bedrock	0.65
		Shrink-swell	0.50	Unstable excavation walls	1.00		
Salander	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Unstable excavation walls	0.10		

Table 15.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
181F:							
Neskowin	35	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.64	Slope	1.00	Depth to bedrock	0.65
		Shrink-swell	0.50	Unstable excavation walls	1.00		
Rock outcrop	30	Not rated		Not rated		Not rated	
Necanicum	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Unstable excavation walls	1.00		
182D:							
Neotsu	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to soft bedrock	0.29	Depth to bedrock	0.29
				Unstable excavation walls	0.10		
Salander	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Unstable excavation walls	0.10		
183D:							
Winema	55	Very limited		Very limited		Very limited	
		Low strength	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Too clayey	0.12		
		Shrink-swell	0.50	Unstable excavation walls	0.10		
Fendall	30	Very limited		Very limited		Very limited	
		Low strength	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to soft bedrock	0.15	Depth to bedrock	0.16
		Shrink-swell	0.50	Unstable excavation walls	0.10		
185F:							
Udorthents, steep	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to soft bedrock	0.95	Depth to bedrock	0.95
				Unstable excavation walls	0.10	Droughty	0.53
Rock outcrop	30	Not rated		Not rated		Not rated	
190D:							
Mulkey	85	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to hard bedrock	1.00	Depth to bedrock	0.80
		Depth to hard bedrock	0.79	Slope	0.63	Slope	0.63
		Slope	0.63	Unstable excavation walls	0.10		

Table 15.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
191B:							
Siletz	40	Very limited		Very limited		Not limited	
		Low strength	1.00	Unstable excavation walls	1.00		
		Shrink-swell	0.22				
Euchre	35	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.96
		Depth to saturated zone	0.96	Unstable excavation walls	1.00		
		Shrink-swell	0.22				
192A:							
Yachats, occasional flooding	85	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Flooding	0.60	Flooding	0.60
				Unstable excavation walls	0.10		
303F:							
Ascar	50	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Large stones	0.71	Slope	1.00		
				Large stones	0.71		
				Unstable excavation walls	0.10		
Rock outcrop	40	Not rated		Not rated		Not rated	
307F:							
Braun	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Unstable excavation walls	0.10	Depth to bedrock	0.06
				Depth to soft bedrock	0.06		
Scaponia	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Unstable excavation walls	0.10		
309D:							
Caterl	45	Very limited		Very limited		Very limited	
		Slope	1.00	Unstable excavation walls	1.00	Slope	1.00
		Frost action	0.50	Slope	1.00		
				Depth to hard bedrock	0.18		
Laderly	35	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Frost action	0.50	Unstable excavation walls	1.00	Depth to bedrock	0.46
		Depth to hard bedrock	0.46	Slope	1.00		

Table 15.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
309E:							
Caterl	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Unstable excavation walls	1.00		
				Depth to hard bedrock	0.18		
Laderly	35	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Frost action	0.50	Slope	1.00	Depth to bedrock	0.46
		Depth to hard bedrock	0.46	Unstable excavation walls	1.00		
314A:							
Croquib	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Low strength	1.00	Unstable excavation walls	1.00		
		Shrink-swell	0.50				
322F:							
Harslow	50	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.03	Slope	1.00	Depth to bedrock	0.03
				Unstable excavation walls	1.00		
Kilchis	35	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones	0.09	Unstable excavation walls	0.50	Droughty	0.46
				Large stones	0.09		
327:							
Dystrudepts, steep	95	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Unstable excavation walls	0.10	Depth to bedrock	0.06
				Depth to soft bedrock	0.06		
328:							
Dystrudepts	45	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.16	Slope	0.16	Slope	0.16
				Unstable excavation walls	0.10		
Humaquepts, isomesic	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Low strength	1.00	Too clayey	0.12		
		Shrink-swell	0.22	Unstable excavation walls	0.10		

Table 15.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
329F:							
Kilchis	45	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones	0.09	Unstable excavation walls	0.50	Droughty	0.46
				Large stones	0.09		
Rock outcrop	35	Not rated		Not rated		Not rated	
338F:							
Laderly	40	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Frost action	0.50	Slope	1.00	Depth to bedrock	0.46
		Depth to hard bedrock	0.46	Unstable excavation walls	1.00		
Rock outcrop	35	Not rated		Not rated		Not rated	
342D:							
McMille	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.50				
		Frost action	0.50				
345A:							
Mues	85	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.12
		Shrink-swell	0.50	Unstable excavation walls	1.00		
		Depth to saturated zone	0.12				
346D:							
Murtip	75	Very limited		Very limited		Very limited	
		Slope	1.00	Unstable excavation walls	1.00	Slope	1.00
		Frost action	0.50	Slope	1.00		
347E:							
Murtip	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Unstable excavation walls	1.00		
Caterl	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Unstable excavation walls	1.00		
				Depth to hard bedrock	0.18		
350E:							
Necanicum	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Unstable excavation walls	1.00		

Table 15.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
350E:							
Ascar	30	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Large stones	0.71	Slope	1.00		
				Large stones	0.71		
				Unstable excavation walls	0.10		
356D:							
Rinearson	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.50				
357E:							
Scaponia	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Unstable excavation walls	0.10		
Braun	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Unstable excavation walls	0.10	Depth to bedrock	0.06
				Depth to soft bedrock	0.06		
358D:							
Skipanon	80	Very limited		Very limited		Very limited	
		Slope	1.00	Unstable excavation walls	1.00	Slope	1.00
		Shrink-swell	0.22	Slope	1.00		
358E:							
Skipanon	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.22	Unstable excavation walls	1.00		
359D:							
Svensen	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Unstable excavation walls	0.10		
359E:							
Svensen	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Unstable excavation walls	0.10		
363D:							
Tolke	80	Very limited		Very limited		Very limited	
		Low strength	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Unstable excavation walls	0.10		

Table 15.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
371C:							
Walluski	85	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Slope	0.37
		Slope	0.37	Slope	0.37	Depth to saturated zone	0.03
		Shrink-swell	0.22	Unstable excavation walls	0.10		
		Depth to saturated zone	0.03				
403E:							
Astoria	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.22				
420E:							
Hembre	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Unstable excavation walls	1.00		
				Depth to hard bedrock	0.93		
420F:							
Hembre	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Unstable excavation walls	1.00		
				Depth to hard bedrock	0.93		
425E:							
Klickitat	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones	1.00	Large stones	1.00		
				Depth to hard bedrock	0.96		
				Unstable excavation walls	0.10		
433D:							
Melby	80	Very limited		Very limited		Very limited	
		Low strength	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.50	Too clayey	0.03		
433E:							
Melby	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.50	Too clayey	0.03		
439E:							
Tolke	70	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Unstable excavation walls	0.10		

Table 15.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
501D:							
Apt	55	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Slope	0.63	Slope	0.63
		Slope	0.63	Too clayey	0.50		
		Shrink-swell	0.50	Unstable excavation walls	0.10		
McDuff	30	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Slope	0.63	Slope	0.63
		Slope	0.63	Too clayey	0.32	Depth to bedrock	0.03
		Shrink-swell	0.50	Unstable excavation walls	0.10		
				Depth to soft bedrock	0.03		
501E:							
Apt	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Too clayey	0.50		
		Shrink-swell	0.50	Unstable excavation walls	0.10		
McDuff	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Too clayey	0.32	Depth to bedrock	0.03
		Shrink-swell	0.50	Unstable excavation walls	0.10		
				Depth to soft bedrock	0.03		
517A:							
Euchre	85	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.96
		Depth to saturated zone	0.96	Unstable excavation walls	1.00		
		Shrink-swell	0.22				
519D:							
Fendall	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Depth to soft bedrock	0.15	Depth to bedrock	0.16
		Shrink-swell	0.50	Unstable excavation walls	0.10		
Winema	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Too clayey	0.12		
		Shrink-swell	0.50	Unstable excavation walls	0.10		
532D:							
Klootchie	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Unstable excavation walls	0.10		

Table 15.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
532D:							
Neotsu	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to soft bedrock	0.29	Depth to bedrock	0.29
				Unstable excavation walls	0.10		
532E:							
Klootchie	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Unstable excavation walls	0.10		
Neotsu	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to soft bedrock	0.29	Depth to bedrock	0.29
				Unstable excavation walls	0.10		
543F:							
Neotsu	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to soft bedrock	0.29	Depth to bedrock	0.29
				Unstable excavation walls	0.10		
Necanicum	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Unstable excavation walls	1.00		
552F:							
Reedsport	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Depth to soft bedrock	0.15	Depth to bedrock	0.16
				Unstable excavation walls	0.10		
Tolovana	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.50				
555D:							
Templeton	55	Very limited		Very limited		Very limited	
		Low strength	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Unstable excavation walls	0.10		
Fendall	30	Very limited		Very limited		Very limited	
		Low strength	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to soft bedrock	0.15	Depth to bedrock	0.16
		Shrink-swell	0.50	Unstable excavation walls	0.10		

Table 15.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
556D:							
Tolovana	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.50				
Reedsport	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Depth to soft bedrock	0.15	Depth to bedrock	0.16
				Unstable excavation walls	0.10		
556E:							
Tolovana	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.50				
Reedsport	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Depth to soft bedrock	0.15	Depth to bedrock	0.16
				Unstable excavation walls	0.10		
611B:							
Dystrudepts, warm	50	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.35
		Shrink-swell	0.50	Too clayey	0.88		
		Depth to saturated zone	0.35	Unstable excavation walls	0.10		
Aquepts, warm	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Flooding	0.80	Depth to saturated zone	1.00
		Low strength	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.50	Too clayey	0.02		
Humaquepts, warm	15	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Low strength	1.00	Too clayey	0.12		
		Shrink-swell	0.22	Unstable excavation walls	0.10		
Water	100	Not rated		Not rated		Not rated	

Table 16.--Sewage Disposal

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
1A:					
Brenner	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	0.27
2A:					
Fluvaquents	60	Very limited		Very limited	
		Flooding	1.00	Ponding	1.00
		Ponding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Organic matter content	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
				Seepage	1.00
Histosols	35	Very limited		Very limited	
		Flooding	1.00	Ponding	1.00
		Ponding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Organic matter content	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
				Seepage	0.50
3A:					
Coquille	85	Very limited		Very limited	
		Flooding	1.00	Ponding	1.00
		Ponding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Organic matter content	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
				Seepage	0.50
4D:					
Ginsberg	85	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	1.00	Seepage	0.50
4E:					
Ginsberg	60	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	1.00	Seepage	0.50
Klistan	20	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.96	Depth to hard bedrock	0.88
		Slow water movement	0.50	Seepage	0.50

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
5E:					
Ferrelo-------------	90	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50		
6D:					
Horseprairie--------	65	Somewhat limited		Very limited	
		Slope	0.63	Slope	1.00
		Slow water movement	0.50	Seepage	0.98
Ferrelo-------------	25	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	1.00
		Slope	0.63		
		Slow water movement	0.50		
7:					
Dune land-----------	80	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	1.00
		Filtering capacity	1.00		
		Slope	1.00		
8A:					
Depoe---------------	85	Very limited		Very limited	
		Ponding	1.00	Depth to cemented pan	1.00
		Depth to cemented pan	1.00		
				Ponding	1.00
		Depth to saturated zone	1.00	Seepage	1.00
				Depth to saturated zone	1.00
		Seepage, bottom layer	1.00		
9B:					
Waldport------------	85	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.08
		Filtering capacity	1.00		
9C:					
Waldport------------	85	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	1.00
		Filtering capacity	1.00		
9D:					
Waldport------------	85	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	1.00
		Filtering capacity	1.00		
		Slope	1.00		

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
9E:					
Waldport	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Filtering capacity	1.00		
10B:					
Waldport, thin surface	85	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.08
		Filtering capacity	1.00		
10C:					
Waldport, thin surface	90	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	1.00
		Filtering capacity	1.00		
		Slope	0.04		
10E:					
Waldport, thin surface	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Filtering capacity	1.00		
11B:					
Netarts	85	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.08
11C:					
Netarts	90	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	1.00
11D:					
Netarts	90	Very limited		Very limited	
		Slope	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Slope	1.00
11E:					
Netarts	90	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
12B:					
Yaquina	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
				Depth to saturated zone	1.00
		Seepage, bottom layer	1.00		

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
13B:					
Waldport, thin surface	70	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.08
		Filtering capacity	1.00		
Heceta	25	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
				Depth to saturated zone	1.00
		Seepage, bottom layer	1.00		
		Filtering capacity	1.00		
14A:					
Heceta	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
				Depth to saturated zone	1.00
		Seepage, bottom layer	1.00		
		Filtering capacity	1.00		
15B:					
Netarts	50	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.08
Yaquina	45	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
				Depth to saturated zone	1.00
		Seepage, bottom layer	1.00		
16F:					
Caterl	45	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.62	Seepage	0.56
		Slow water movement	0.44	Depth to hard bedrock	0.18
Laderly	25	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00		
		Seepage, bottom layer	1.00	Slope	1.00
				Seepage	1.00
Murtip	20	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.77	Seepage	0.50
		Slow water movement	0.50	Depth to soft bedrock	0.42
17B:					
Chitwood	50	Very limited		Very limited	
		Depth to saturated zone	1.00	Organic matter content	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
17B:					
Hebo	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Slope	0.08
18B:					
Chitwood	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Organic matter content	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
				Slope	0.08
18C:					
Chitwood	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Organic matter content	1.00
		Slow water movement	1.00	Slope	1.00
		Slope	0.37	Depth to saturated zone	1.00
19E:					
Klootchie	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
20D:					
Klootchie	60	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
Necanicum	25	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
20E:					
Klootchie	55	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
Necanicum	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
21F:					
Necanicum	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
21F:					
Ascar	25	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Large stones	0.71	Large stones	0.21
Klootchie	20	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
22F:					
Ascar	35	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Large stones	0.71	Large stones	0.21
Necanicum	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
Rock outcrop	20	Not rated		Not rated	
23F:					
Rock outcrop	60	Not rated		Not rated	
Ascar	25	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Large stones	0.71	Large stones	0.21
24C:					
Lebam	85	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
				Seepage	0.50
24D:					
Lebam	85	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
				Seepage	0.50
		Slope	1.00		
25E:					
Lebam	60	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
				Seepage	0.50
		Slope	1.00		
Necanicum	20	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
26F:					
Lebam	55	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	1.00	Seepage	0.50
Necanicum	25	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
28D:					
Templeton	60	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
		Depth to bedrock	0.28		
Necanicum	25	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
29D:					
Templeton	50	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
		Depth to bedrock	0.28		
Klootchie	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
29E:					
Templeton	45	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
		Depth to bedrock	0.28		
Klootchie	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
30D:					
Templeton	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
		Depth to bedrock	0.28		
30E:					
Templeton	60	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
		Depth to bedrock	0.28		

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
30E:					
Ecola	20	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
30F:					
Templeton	45	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
		Depth to bedrock	0.28		
Ecola	40	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
31D:					
Tolovana	45	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	1.00	Seepage	0.50
Templeton	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
		Depth to bedrock	0.28		
31E:					
Tolovana	50	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	1.00	Seepage	0.50
Templeton	25	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
		Depth to bedrock	0.28		
32D:					
Munsoncreek	65	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	1.00	Seepage	0.03
		Depth to bedrock	0.34	Depth to soft bedrock	0.01
Flowerpot	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Slope	1.00
		Slope	1.00		

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
32E:					
Munsoncreek	65	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	1.00	Seepage	0.03
		Depth to bedrock	0.34	Depth to soft bedrock	0.01
Templeton	20	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
		Depth to bedrock	0.28		
33D:					
Tolovana	85	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	1.00	Seepage	0.50
37D:					
Templeton	45	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
		Depth to bedrock	0.28		
Skipanon	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.32	Seepage	0.68
37E:					
Templeton	55	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
		Depth to bedrock	0.28		
Skipanon	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.32	Seepage	0.68
38E:					
Templeton	50	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
		Depth to bedrock	0.28		
Necanicum	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
43F:					
Klistan	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.96	Depth to hard bedrock	0.88
		Slow water movement	0.50	Seepage	0.50

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
43F:					
Harslow	30	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
Hemcross	25	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
44E:					
Klistan	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.96	Depth to hard bedrock	0.88
		Slow water movement	0.50	Seepage	0.50
Harslow	30	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
Rock outcrop	20	Not rated		Not rated	
44F:					
Harslow	35	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
Klistan	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.96	Depth to hard bedrock	0.88
		Slow water movement	0.50	Seepage	0.50
Rock outcrop	20	Not rated		Not rated	
45B:					
Hebo	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Slope	0.08
48D:					
Hemcross	60	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
Klistan	25	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.96	Depth to hard bedrock	0.88
		Slow water movement	0.50	Seepage	0.50

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
48E:					
Hemcross	50	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
Klistan	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.96	Depth to hard bedrock	0.88
		Slow water movement	0.50	Seepage	0.50
50B:					
Walluski	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	0.50
				Slope	0.08
51B:					
Walluski	45	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	0.50
				Slope	0.08
Chitwood	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Organic matter content	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
				Slope	0.08
51C:					
Walluski	45	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Slope	1.00
				Seepage	0.50
		Slope	0.04		
Chitwood	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Organic matter content	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
		Slope	0.04	Slope	1.00
54B:					
Knappa	85	Somewhat limited		Very limited	
		Slow water movement	0.50	Organic matter content	1.00
				Seepage	0.50
				Slope	0.08

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
55A:					
Histosols-----------	55	Very limited		Very limited	
		Flooding	1.00	Ponding	1.00
		Ponding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Organic matter content	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
				Seepage	0.50
Water---------------	45	Not rated		Not rated	
56B:					
Wolfer--------------	80	Very limited		Very limited	
		Seepage, bottom layer	1.00	Organic matter content	1.00
		Slow water movement	0.50	Seepage	1.00
				Slope	0.08
56C:					
Wolfer--------------	85	Very limited		Very limited	
		Seepage, bottom layer	1.00	Organic matter content	1.00
		Slow water movement	0.50	Seepage	1.00
				Slope	1.00
		Slope	0.04		
57B:					
Condorbridge--------	85	Very limited		Very limited	
		Slow water movement	1.00	Organic matter content	1.00
				Seepage	1.00
				Slope	0.08
57C:					
Condorbridge--------	80	Very limited		Very limited	
		Slow water movement	1.00	Organic matter content	1.00
				Slope	1.00
				Seepage	1.00
58C:					
Knappa--------------	85	Somewhat limited		Very limited	
		Slow water movement	0.50	Organic matter content	1.00
		Slope	0.04	Slope	1.00
				Seepage	0.50
59B:					
Chitwood------------	45	Very limited		Very limited	
		Depth to saturated zone	1.00	Organic matter content	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
				Slope	0.08
Knappa--------------	40	Somewhat limited		Very limited	
		Slow water movement	0.50	Organic matter content	1.00
				Seepage	0.50
				Slope	0.08

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
60E:					
Caterl	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.62	Seepage	0.56
		Slow water movement	0.44	Depth to hard bedrock	0.18
Laderly	30	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
Rock outcrop	25	Not rated		Not rated	
60F:					
Laderly	35	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
Caterl	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.62	Seepage	0.56
		Slow water movement	0.44	Depth to hard bedrock	0.18
Rock outcrop	20	Not rated		Not rated	
61F:					
Laderly, south slopes	40	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
Rock outcrop, south slopes	25	Not rated		Not rated	
Caterl, south slopes	20	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.62	Seepage	0.56
		Slow water movement	0.44	Depth to hard bedrock	0.18
62F:					
Rock outcrop	60	Not rated		Not rated	
Laderly	25	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
70D:					
Murtip	45	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.77	Seepage	0.50
		Slow water movement	0.50	Depth to soft bedrock	0.42
Caterl	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.62	Seepage	0.56
		Slow water movement	0.44	Depth to hard bedrock	0.18
Laderly	15	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00		
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	1.00
70E:					
Murtip	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.77	Seepage	0.50
		Slow water movement	0.50	Depth to soft bedrock	0.42
Caterl	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.62	Seepage	0.56
		Slow water movement	0.44	Depth to hard bedrock	0.18
Laderly	15	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00		
		Seepage, bottom layer	1.00	Slope	1.00
				Seepage	1.00
71D:					
McMille	50	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.94	Depth to soft bedrock	0.84
		Slow water movement	0.50		
				Seepage	0.50
Mutt	35	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00		
		Slow water movement	0.50	Slope	1.00
				Seepage	0.50
72D:					
Caterl, clayey	60	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
				Large stones	0.96
		Slope	1.00	Seepage	0.50
		Depth to bedrock	0.62	Depth to hard bedrock	0.18
		Large stones	0.26		

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
72D:					
Murtip, clayey	20	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
				Seepage	0.50
		Slope	1.00	Depth to soft bedrock	0.42
		Depth to bedrock	0.77		
		Large stones	0.02	Large stones	0.21
73A:					
Nehalem, frequent flooding	75	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.72		
74A:					
Nehalem, occasional flooding	80	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.72		
76A:					
Nestucca	90	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	0.50
77A:					
Nestucca	55	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	0.50
Brenner	40	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	0.27
80B:					
Quillamook	80	Somewhat limited		Very limited	
		Slow water movement	0.50	Organic matter content	1.00
				Seepage	0.50
				Slope	0.08

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
81B:					
Quillamook, gravelly substratum	60	Very limited		Very limited	
		Seepage, bottom layer	1.00	Organic matter content	1.00
		Slow water movement	0.50	Seepage	1.00
				Slope	0.08
Quillamook	25	Somewhat limited		Very limited	
		Slow water movement	0.50	Organic matter content	1.00
				Seepage	0.50
				Slope	0.08
81C:					
Quillamook, gravelly substratum	60	Very limited		Very limited	
		Seepage, bottom layer	1.00	Organic matter content	1.00
		Slow water movement	0.50	Seepage	1.00
		Slope	0.04	Slope	1.00
Quillamook	25	Somewhat limited		Very limited	
		Slow water movement	0.50	Organic matter content	1.00
		Slope	0.04	Slope	1.00
				Seepage	0.50
89A:					
Udifluvents	40	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
Riverwash	30	Not rated		Not rated	
Water	25	Not rated		Not rated	
90A:					
Yachats	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00		
91A:					
Gauldy	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
92A:					
Yachats	45	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00		

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
92A:					
Gauldy	40	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
93B:					
Gauldy, occasional flooding	50	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
Gauldy, rare flooding	35	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Flooding	0.40
		Flooding	0.40	Slope	0.08
94B:					
Ginger	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Organic matter content	1.00
		Slow water movement	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
Quillamook	30	Somewhat limited		Very limited	
		Slow water movement	0.50	Organic matter content	1.00
				Seepage	0.50
				Slope	0.08
Urban land	30	Not rated		Not rated	
95B:					
Urban land	55	Not rated		Not rated	
Quillamook	30	Somewhat limited		Very limited	
		Slow water movement	0.50	Organic matter content	1.00
				Seepage	0.50
				Slope	0.08
96B:					
Ginger	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Organic matter content	1.00
		Slow water movement	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
Hebo	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Slope	0.08

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
99:					
Beaches	95	Not rated		Not rated	
100B:					
Urban land	65	Not rated		Not rated	
Udorthents	25	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.08
101B:					
Urban land, flooded	65	Not rated		Not rated	
Udorthents, flooded	25	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.08
102A:					
Fluvaquents, diked	60	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Organic matter content	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
				Seepage	1.00
Histosols, diked	35	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Organic matter content	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
				Seepage	0.50
103A:					
Coquille, diked	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Organic matter content	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
				Seepage	0.50
104A:					
Coquille, protected	50	Very limited		Very limited	
		Depth to saturated zone	1.00	Organic matter content	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
		Flooding	0.40	Seepage	0.50
				Flooding	0.40
Brenner, protected	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Flooding	0.40
		Flooding	0.40	Seepage	0.27

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
104A:					
Nehalem, protected	15	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.72		
110F:					
Waldport, thin surface	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Filtering capacity	1.00		
115A:					
Aquepts	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00		
116A:					
Aquepts, warm	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00		
118B:					
Oxyaquic Hapludands, flood plains	45	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Seepage	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00		
Alic Hapludands, terraces	30	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.32
119B:					
Oxyaquic Fulvudands, flood plains	45	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Organic matter content	1.00
		Filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
119B:					
Typic Fulvudands, terraces	30	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50	Slope	0.32
120C:					
Alic Hapludands, terraces	60	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.92
Alic Hapludands, fans	35	Somewhat limited		Very limited	
		Slow water movement	0.50	Slope	1.00
		Slope	0.37	Seepage	0.50
121D:					
Fendall	50	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slow water movement	1.00	Organic matter content	1.00
		Slope	1.00	Slope	1.00
				Seepage	0.50
Munsoncreek	30	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	1.00	Seepage	0.03
		Depth to bedrock	0.34	Depth to soft bedrock	0.01
125B:					
Siletz	80	Very limited		Very limited	
		Slow water movement	1.00	Organic matter content	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.08
126B:					
Siletz, warm	80	Very limited		Very limited	
		Slow water movement	1.00	Organic matter content	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.08
127C:					
Condorbridge, warm	80	Very limited		Very limited	
		Slow water movement	1.00	Organic matter content	1.00
				Slope	1.00
				Seepage	1.00
128B:					
Siletz	45	Very limited		Very limited	
		Slow water movement	1.00	Organic matter content	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.08

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
128B:					
Wolfer	40	Very limited		Very limited	
		Seepage, bottom layer	1.00	Organic matter content	1.00
		Slow water movement	0.50	Seepage	1.00
				Slope	0.08
144F:					
Harslow, south slopes	40	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
Rock outcrop, south slopes	30	Not rated		Not rated	
Klistan, south slopes	20	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.96	Depth to hard bedrock	0.88
		Slow water movement	0.50	Seepage	0.50
145F:					
Rock outcrop	60	Not rated		Not rated	
Harslow	25	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
156F:					
Sevencedars	55	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
Newanna	30	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Large stones	0.66	Large stones	1.00
		Slow water movement	0.50	Seepage	0.50
157D:					
Caterl, till substratum	80	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Large stones	0.96
		Large stones	0.26	Seepage	0.50

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
157E:					
Caterl, till substratum	80	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Large stones	0.96
		Large stones	0.26	Seepage	0.50
157F:					
Caterl, till substratum	80	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Large stones	0.96
		Large stones	0.26	Seepage	0.50
158D:					
Sevencedars, till substratum	80	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
				Large stones	0.38
158E:					
Sevencedars, till substratum	80	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
				Large stones	0.38
158F:					
Sevencedars, till substratum	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
				Large stones	0.38
159D:					
Sevencedars, clayey	85	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	1.00	Large stones	1.00
		Large stones	0.87	Seepage	0.50
161D:					
Sevencedars	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
Newanna	30	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Large stones	0.66	Large stones	1.00
		Slow water movement	0.50	Seepage	0.50

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
161D:					
Woodspoint	25	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.82	Depth to hard bedrock	0.54
		Slow water movement	0.50	Seepage	0.50
161E:					
Sevencedars	50	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
Newanna	20	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Large stones	0.66	Large stones	1.00
		Slow water movement	0.50	Seepage	0.50
Woodspoint	20	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.82	Depth to hard bedrock	0.54
		Slow water movement	0.50	Seepage	0.50
161F:					
Newanna	35	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Large stones	0.66	Large stones	1.00
		Slow water movement	0.50	Seepage	0.50
Sevencedars	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
Rock outcrop	20	Not rated		Not rated	
162D:					
Mosscreek	50	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
Fawceter	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
		Depth to bedrock	0.38	Depth to hard bedrock	0.02
162E:					
Mosscreek	50	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
162E:					
Fawceter	45	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
		Depth to bedrock	0.38	Depth to hard bedrock	0.02
163F:					
Fawceter	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
		Depth to bedrock	0.38	Depth to hard bedrock	0.02
Killam	25	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
Mosscreek	20	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
164F:					
Killam	35	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
Fawceter	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
		Depth to bedrock	0.38	Depth to hard bedrock	0.02
Rock outcrop	20	Not rated		Not rated	
166F:					
Rock outcrop	60	Not rated		Not rated	
Killam	25	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
170A:					
Logsden	85	Somewhat limited		Somewhat limited	
		Slow water movement	0.92	Seepage	0.50
		Flooding	0.40	Flooding	0.40
170B:					
Logsden	50	Somewhat limited		Somewhat limited	
		Slow water movement	0.92	Seepage	0.50
				Flooding	0.40
		Flooding	0.40	Slope	0.08

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
170B:					
Nehalem, occasional flooding	40	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.72		
173B:					
Tillamook	45	Very limited		Very limited	
		Depth to saturated zone	1.00	Organic matter content	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
				Seepage	0.50
				Slope	0.08
Ginger	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Organic matter content	1.00
		Slow water movement	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
173C:					
Tillamook	45	Very limited		Very limited	
		Depth to saturated zone	1.00	Organic matter content	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
		Slope	0.04	Slope	1.00
				Seepage	0.50
Ginger	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Organic matter content	1.00
		Slow water movement	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
		Slope	0.04	Slope	1.00
174C:					
Typic Fulvudands, terraces	60	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50	Slope	0.92
Typic Fulvudands, fans	35	Somewhat limited		Very limited	
		Slow water movement	0.50	Slope	1.00
		Slope	0.37	Seepage	0.50

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
175D:					
Astoria	80	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	1.00	Depth to soft bedrock	0.32
		Depth to bedrock	0.72		
176D:					
Preacher	65	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.68	Seepage	0.98
		Slow water movement	0.02	Depth to soft bedrock	0.26
Bohannon	20	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
176E:					
Preacher	55	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.68	Seepage	0.98
		Slow water movement	0.02	Depth to soft bedrock	0.26
Bohannon	30	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
177B:					
Dystrudepts	65	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Slope	0.08
Aquepts	30	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Slope	0.08
178B:					
Fluventic Humic Dystrudepts	45	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50	Slope	0.08

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
178B:					
Dystrudepts	25	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.08
		Slow water movement	0.50		
Aquepts	20	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00		
180D:					
Salander	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.72	Seepage	0.50
180E:					
Salander	60	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.72	Seepage	0.50
Necanicum	25	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
180F:					
Salander	50	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.72	Seepage	0.50
Necanicum	20	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
Neskowin	15	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00		
		Slow water movement	0.72	Slope	1.00
				Seepage	0.27
181E:					
Neskowin	60	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00		
		Slow water movement	0.72	Slope	1.00
				Seepage	0.27
Salander	25	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.72	Seepage	0.50

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
181F:					
Neskowin------------	35	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Slow water movement	0.72	Seepage	0.27
Rock outcrop--------	30	Not rated		Not rated	
Necanicum-----------	20	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
182D:					
Neotsu--------------	60	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
Salander------------	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.72	Seepage	0.50
183D:					
Winema--------------	55	Very limited		Very limited	
		Slow water movement	1.00	Organic matter content	1.00
		Slope	1.00	Slope	1.00
				Seepage	0.50
Fendall-------------	30	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slow water movement	1.00	Organic matter content	1.00
		Slope	1.00	Slope	1.00
				Seepage	0.50
185F:					
Udorthents, steep---	50	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
Rock outcrop--------	30	Not rated		Not rated	
190D:					
Mulkey--------------	85	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Seepage, bottom layer	1.00	Organic matter content	1.00
		Slope	0.63	Seepage	1.00
				Slope	1.00

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
191B:					
Siletz	40	Very limited		Very limited	
		Slow water movement	1.00	Organic matter content	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.08
Euchre	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Organic matter content	1.00
		Slow water movement	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
				Slope	0.08
192A:					
Yachats, occasional flooding	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00		
303F:					
Ascar	50	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Large stones	0.71	Large stones	0.21
Rock outcrop	40	Not rated		Not rated	
307F:					
Braun	45	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
Scaponia	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.94	Depth to soft bedrock	0.84
		Slow water movement	0.50	Seepage	0.50
309D:					
Caterl	45	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.62	Seepage	0.56
		Slow water movement	0.44	Depth to hard bedrock	0.18
Laderly	35	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Slope	1.00

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
309E:					
Caterl	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.62	Seepage	0.56
		Slow water movement	0.44	Depth to hard bedrock	0.18
Laderly	35	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
314A:					
Croquib	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Organic matter content	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
322F:					
Harslow	50	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
Kilchis	35	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Large stones	0.09	Large stones	0.80
327:					
Dystrudepts, steep	95	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50		
328:					
Dystrudepts	45	Very limited		Very limited	
		Seepage, bottom layer	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	1.00
		Slope	0.16		
Humaquepts, isomesic	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Slope	0.08

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
329F:					
Kilchis	45	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Large stones	0.09	Large stones	0.80
Rock outcrop	35	Not rated		Not rated	
338F:					
Laderly	40	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
Rock outcrop	35	Not rated		Not rated	
342D:					
McMille	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.94	Depth to soft bedrock	0.84
		Slow water movement	0.50	Seepage	0.50
345A:					
Mues	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Organic matter content	1.00
		Slow water movement	0.50	Depth to saturated zone	1.00
				Seepage	0.50
346D:					
Murtip	75	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.77	Seepage	0.50
		Slow water movement	0.50	Depth to soft bedrock	0.42
347E:					
Murtip	45	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.77	Seepage	0.50
		Slow water movement	0.50	Depth to soft bedrock	0.42
Caterl	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.62	Seepage	0.56
		Slow water movement	0.44	Depth to hard bedrock	0.18
350E:					
Necanicum	45	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
350E:					
Ascar	30	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Large stones	0.71	Large stones	0.21
356D:					
Rinearson	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.68	Seepage	0.50
		Slow water movement	0.50	Depth to soft bedrock	0.26
357E:					
Scaponia	50	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.94	Depth to soft bedrock	0.84
		Slow water movement	0.50	Seepage	0.50
Braun	35	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
358D:					
Skipanon	80	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.32	Seepage	0.68
358E:					
Skipanon	80	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.32	Seepage	0.68
359D:					
Svensen	85	Very limited		Very limited	
		Slope	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Slope	1.00
359E:					
Svensen	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
363D:					
Tolke	80	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
371C:					
Walluski------------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
		Slope	0.37	Seepage	0.50
403E:					
Astoria-------------	80	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	1.00	Depth to soft bedrock	0.32
		Depth to bedrock	0.72		
420E:					
Hembre--------------	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.97	Depth to hard bedrock	0.93
		Slow water movement	0.50	Seepage	0.50
420F:					
Hembre--------------	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.97	Depth to hard bedrock	0.93
		Slow water movement	0.50	Seepage	0.50
425E:					
Klickitat-----------	80	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Large stones	1.00	Large stones	1.00
		Depth to bedrock	0.98	Depth to hard bedrock	0.96
		Slow water movement	0.50	Seepage	0.50
433D:					
Melby---------------	80	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	1.00	Depth to soft bedrock	0.71
		Depth to bedrock	0.89	Seepage	0.50
433E:					
Melby---------------	80	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	1.00	Depth to soft bedrock	0.71
		Depth to bedrock	0.89	Seepage	0.50
439E:					
Tolke---------------	70	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
501D:					
Apt	55	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	0.63		
McDuff	30	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slow water movement	1.00	Slope	1.00
		Slope	0.63	Seepage	0.08
501E:					
Apt	50	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	1.00		
McDuff	30	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slow water movement	1.00	Slope	1.00
		Slope	1.00	Seepage	0.08
517A:					
Euchre	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Organic matter content	1.00
		Slow water movement	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
519D:					
Fendall	50	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slow water movement	1.00	Organic matter content	1.00
		Slope	1.00	Slope	1.00
				Seepage	0.50
Winema	30	Very limited		Very limited	
		Slow water movement	1.00	Organic matter content	1.00
		Slope	1.00	Slope	1.00
				Seepage	0.50
532D:					
Klootchie	45	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
Neotsu	35	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
532E:					
Klootchie-----------	50	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
Neotsu--------------	30	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
543F:					
Neotsu--------------	40	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
Necanicum-----------	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
552F:					
Reedsport-----------	50	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
Tolovana------------	30	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	1.00	Seepage	0.50
555D:					
Templeton-----------	55	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
		Depth to bedrock	0.28		
Fendall-------------	30	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slow water movement	1.00	Organic matter content	1.00
		Slope	1.00	Slope	1.00
				Seepage	0.50
556D:					
Tolovana------------	45	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	1.00	Seepage	0.50

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
556D:					
Reedsport-----------	35	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
556E:					
Tolovana------------	50	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	1.00	Seepage	0.50
Reedsport-----------	35	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
611B:					
Dystrudepts, warm---	50	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Slope	0.08
Aquepts, warm-------	30	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Slope	0.08
Humaquepts, warm----	15	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Slope	0.08
W:					
Water---------------	100	Not rated		Not rated	

Table 17.--Landfills

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
1A:							
Brenner	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Too clayey	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Depth to saturated zone	1.00				
2A:							
Fluvaquents	60	Very limited		Very limited		Very limited	
		Ponding	1.00	Flooding	1.00	Ponding	1.00
		Flooding	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
		Seepage, bottom layer	1.00	Seepage	1.00		
Histosols	35	Very limited		Very limited		Very limited	
		Ponding	1.00	Flooding	1.00	Ponding	1.00
		Flooding	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
		Too clayey	0.50				
3A:							
Coquille	85	Very limited		Very limited		Very limited	
		Ponding	1.00	Flooding	1.00	Ponding	1.00
		Flooding	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
		Too clayey	0.50				
4D:							
Ginsberg	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Hard to compact	1.00
		Too clayey	0.50			Slope	1.00
						Too clayey	0.50
4E:							
Ginsberg	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Hard to compact	1.00
						Too clayey	0.50
Klistan	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	0.88	Depth to bedrock	0.88
5E:							
Ferrelo	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
		Too sandy	0.50			Too sandy	0.50

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
6D:							
Horseprairie	65	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63	Slope	0.63
		Too sandy	0.50			Too sandy	0.50
Ferrelo	25	Very limited		Very limited		Somewhat limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Slope	0.63
				Slope	0.63	Seepage	0.50
		Slope	0.63			Too sandy	0.50
		Too sandy	0.50				
7:							
Dune land	80	Not rated		Not rated		Very limited	
						Seepage	1.00
						Too sandy	1.00
						Slope	1.00
8A:							
Depoe	85	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Depth to saturated zone	1.00
				Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00				
				Depth to saturated zone	1.00		
		Depth to thin cemented pan	0.50				
9B:							
Waldport	85	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
						Too sandy	1.00
		Too sandy	1.00				
9C:							
Waldport	85	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
						Too sandy	1.00
		Too sandy	1.00				
9D:							
Waldport	85	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
				Slope	1.00	Too sandy	1.00
		Too sandy	1.00			Slope	1.00
		Slope	1.00				
9E:							
Waldport	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
						Too sandy	1.00
		Too sandy	1.00				
10B:							
Waldport, thin surface	85	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
						Too sandy	1.00
		Too sandy	1.00				

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
10C:							
Waldport, thin surface	90	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
		Too sandy	1.00	Slope	0.04	Too sandy	1.00
		Slope	0.04			Slope	0.04
10E:							
Waldport, thin surface	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
		Too sandy	1.00			Too sandy	1.00
11B:							
Netarts	85	Very limited		Very limited		Very limited	
		Too sandy	1.00	Seepage	1.00	Too sandy	1.00
		Seepage, bottom layer	1.00			Seepage	0.50
11C:							
Netarts	90	Very limited		Very limited		Very limited	
		Too sandy	1.00	Seepage	1.00	Too sandy	1.00
		Seepage, bottom layer	1.00			Seepage	0.50
11D:							
Netarts	90	Very limited		Very limited		Very limited	
		Too sandy	1.00	Slope	1.00	Too sandy	1.00
		Slope	1.00	Seepage	1.00	Slope	1.00
		Seepage, bottom layer	1.00			Seepage	0.50
11E:							
Netarts	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too sandy	1.00	Seepage	1.00	Too sandy	1.00
		Seepage, bottom layer	1.00			Seepage	0.50
12B:							
Yaquina	85	Very limited		Very limited		Very limited	
		Too sandy	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	1.00	Too sandy	1.00
		Seepage, bottom layer	1.00			Seepage	0.88
13B:							
Waldport, thin surface	70	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
		Too sandy	1.00			Too sandy	1.00

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
13B:							
Heceta	25	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Depth to saturated zone	1.00
		Too sandy	1.00	Depth to saturated zone	1.00	Seepage	1.00
		Depth to saturated zone	1.00			Too sandy	1.00
14A:							
Heceta	85	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Depth to saturated zone	1.00
		Too sandy	1.00	Depth to saturated zone	1.00	Seepage	1.00
		Depth to saturated zone	1.00			Too sandy	1.00
15B:							
Netarts	50	Very limited		Very limited		Very limited	
		Too sandy	1.00	Seepage	1.00	Too sandy	1.00
		Seepage, bottom layer	1.00			Seepage	0.50
Yaquina	45	Very limited		Very limited		Very limited	
		Too sandy	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	1.00	Too sandy	1.00
		Seepage, bottom layer	1.00			Seepage	0.88
16F:							
Caterl	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	0.18	Depth to bedrock	0.18
Laderly	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
Murtip	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	0.42	Hard to compact	1.00
						Depth to bedrock	0.42
17B:							
Chitwood	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
Hebo	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
18B:							
Chitwood	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
18C:							
Chitwood	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50	Slope	0.37	Too clayey	0.50
		Slope	0.37			Slope	0.37
19E:							
Klootchie	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Hard to compact	1.00
						Too clayey	0.50
20D:							
Klootchie	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Hard to compact	1.00
		Too clayey	0.50			Slope	1.00
						Too clayey	0.50
Necanicum	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones	0.35			Large stones	0.35
20E:							
Klootchie	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Hard to compact	1.00
						Too clayey	0.50
Necanicum	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones	0.35			Large stones	0.35
21F:							
Necanicum	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones	0.35			Large stones	0.35
Ascar	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Large stones	0.71
		Large stones	0.71			Seepage	0.50
Klootchie	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Hard to compact	1.00
						Too clayey	0.50
22F:							
Ascar	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Large stones	0.71
		Large stones	0.71			Seepage	0.50
Necanicum	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones	0.35			Large stones	0.35

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
22F:							
Rock outcrop	20	Not rated		Not rated		Not rated	
23F:							
Rock outcrop	60	Not rated		Not rated		Not rated	
Ascar	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Large stones	0.71
		Large stones	0.71			Seepage	0.50
24C:							
Lebam	85	Somewhat limited		Not limited		Very limited	
		Too clayey	0.50			Hard to compact	1.00
						Too clayey	0.50
24D:							
Lebam	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Hard to compact	1.00
		Too clayey	0.50			Slope	1.00
						Too clayey	0.50
25E:							
Lebam	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Hard to compact	1.00
						Too clayey	0.50
Necanicum	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones	0.35			Large stones	0.35
26F:							
Lebam	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Hard to compact	1.00
						Too clayey	0.50
Necanicum	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones	0.35			Large stones	0.35
28D:							
Templeton	60	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Slope	1.00
		Slope	1.00			Too clayey	0.50
		Too clayey	0.50				
Necanicum	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones	0.35			Large stones	0.35
29D:							
Templeton	50	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Slope	1.00
		Slope	1.00			Too clayey	0.50
		Too clayey	0.50				

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
29D:							
Klootchie-----------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Hard to compact	1.00
		Too clayey	0.50			Slope	1.00
						Too clayey	0.50
29E:							
Templeton-----------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00			Too clayey	0.50
		Too clayey	0.50				
Klootchie-----------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Hard to compact	1.00
						Too clayey	0.50
30D:							
Templeton-----------	85	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Slope	1.00
		Slope	1.00			Too clayey	0.50
		Too clayey	0.50				
30E:							
Templeton-----------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00			Too clayey	0.50
		Too clayey	0.50				
Ecola---------------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	0.50			Too clayey	0.50
30F:							
Templeton-----------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00			Too clayey	0.50
		Too clayey	0.50				
Ecola---------------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	0.50			Too clayey	0.50
31D:							
Tolovana------------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Too clayey	0.50
Templeton-----------	40	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Slope	1.00
		Slope	1.00			Too clayey	0.50
		Too clayey	0.50				
31E:							
Tolovana------------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Too clayey	0.50

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
31E:							
Templeton	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00			Too clayey	0.50
		Too clayey	0.50				
32D:							
Munsoncreek	65	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to bedrock	0.01	Too clayey	0.50
		Too clayey	0.50			Depth to bedrock	0.01
Flowerpot	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Too clayey	0.50
32E:							
Munsoncreek	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	0.01	Too clayey	0.50
		Too clayey	0.50			Depth to bedrock	0.01
Templeton	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00			Too clayey	0.50
		Too clayey	0.50				
33D:							
Tolovana	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Too clayey	0.50
37D:							
Templeton	45	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Slope	1.00
		Slope	1.00			Too clayey	0.50
		Too clayey	0.50				
Skipanon	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Too clayey	0.50
37E:							
Templeton	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00			Too clayey	0.50
		Too clayey	0.50				
Skipanon	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Too clayey	0.50
38E:							
Templeton	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00			Too clayey	0.50
		Too clayey	0.50				

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
38E:							
Necanicum	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones	0.35			Large stones	0.35
43F:							
Klistan	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	0.88	Depth to bedrock	0.88
Harslow	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
Hemcross	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Hard to compact	1.00
44E:							
Klistan	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	0.88	Depth to bedrock	0.88
Harslow	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
Rock outcrop	20	Not rated		Not rated		Not rated	
44F:							
Harslow	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
Klistan	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	0.88	Depth to bedrock	0.88
Rock outcrop	20	Not rated		Not rated		Not rated	
45B:							
Hebo	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
48D:							
Hemcross	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Hard to compact	1.00
						Slope	1.00
Klistan	25	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to bedrock	0.88	Depth to bedrock	0.88
48E:							
Hemcross	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Hard to compact	1.00

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
48E:							
Klistan	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	0.88	Depth to bedrock	0.88
50B:							
Walluski	80	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.68
		Too clayey	0.50			Too clayey	0.50
51B:							
Walluski	45	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.68
		Too clayey	0.50			Too clayey	0.50
Chitwood	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
51C:							
Walluski	45	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.68
		Too clayey	0.50	Slope	0.04	Too clayey	0.50
		Slope	0.04			Slope	0.04
Chitwood	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50	Slope	0.04	Too clayey	0.50
		Slope	0.04			Slope	0.04
54B:							
Knappa	85	Somewhat limited		Not limited		Somewhat limited	
		Too clayey	0.50			Too clayey	0.50
55A:							
Histosols	55	Very limited		Very limited		Very limited	
		Ponding	1.00	Flooding	1.00	Ponding	1.00
		Flooding	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
		Too clayey	0.50				
Water	45	Not rated		Not rated		Not rated	
56B:							
Wolfer	80	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
						Gravel content	0.40
56C:							
Wolfer	85	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
				Slope	0.04	Gravel content	0.40
		Slope	0.04			Slope	0.04

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
57B:							
Condorbridge	85	Somewhat limited		Very limited		Somewhat limited	
		Too clayey	0.50	Seepage	1.00	Too clayey	0.50
57C:							
Condorbridge	80	Somewhat limited		Very limited		Somewhat limited	
		Too clayey	0.50	Seepage	1.00	Too clayey	0.50
58C:							
Knappa	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Too clayey	0.50	Slope	0.04	Too clayey	0.50
		Slope	0.04			Slope	0.04
59B:							
Chitwood	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
Knappa	40	Somewhat limited		Not limited		Somewhat limited	
		Too clayey	0.50			Too clayey	0.50
60E:							
Caterl	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	0.18	Depth to bedrock	0.18
Laderly	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
Rock outcrop	25	Not rated		Not rated		Not rated	
60F:							
Laderly	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
Caterl	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	0.18	Depth to bedrock	0.18
Rock outcrop	20	Not rated		Not rated		Not rated	
61F:							
Laderly, south slopes	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
Rock outcrop, south slopes	25	Not rated		Not rated		Not rated	

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Trench sanitary landfill: Value	Area sanitary landfill: Rating class and limiting features	Area sanitary landfill: Value	Daily cover for landfill: Rating class and limiting features	Daily cover for landfill: Value
61F:							
Caterl, south slopes	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	0.18	Depth to bedrock	0.18
62F:							
Rock outcrop	60	Not rated		Not rated		Not rated	
Laderly	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
70D:							
Murtip	45	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Hard to compact	1.00
		Slope	1.00	Depth to bedrock	0.42	Slope	1.00
						Depth to bedrock	0.42
Caterl	30	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to bedrock	0.18	Depth to bedrock	0.18
Laderly	15	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
70E:							
Murtip	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	0.42	Hard to compact	1.00
						Depth to bedrock	0.42
Caterl	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	0.18	Depth to bedrock	0.18
Laderly	15	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
71D:							
McMille	50	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to bedrock	0.84	Depth to bedrock	0.84
		Too clayey	0.50			Too clayey	0.50
Mutt	35	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Too clayey	0.50

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
72D:							
Caterl, clayey------	60	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to bedrock	0.18	Too clayey	0.50
		Too clayey	0.50			Large stones	0.27
		Large stones	0.27			Depth to bedrock	0.18
Murtip, clayey------	20	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Hard to compact	1.00
		Slope	1.00	Depth to bedrock	0.42	Slope	1.00
		Too clayey	0.50			Too clayey	0.50
		Large stones	0.03			Depth to bedrock	0.42
						Large stones	0.03
73A:							
Nehalem, frequent flooding-----------	75	Very limited		Very limited		Not limited	
		Flooding	1.00	Flooding	1.00		
		Seepage, bottom layer	1.00				
74A:							
Nehalem, occasional flooding-----------	80	Very limited		Very limited		Not limited	
		Flooding	1.00	Flooding	1.00		
		Seepage, bottom layer	1.00				
76A:							
Nestucca------------	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
		Too clayey	0.50				
77A:							
Nestucca------------	55	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
		Too clayey	0.50				
Brenner-------------	40	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Too clayey	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Depth to saturated zone	1.00				
80B:							
Quillamook----------	80	Somewhat limited		Not limited		Very limited	
		Too clayey	0.50			Hard to compact	1.00
						Too clayey	0.50
81B:							
Quillamook, gravelly substratum	60	Very limited		Not limited		Very limited	
		Seepage, bottom layer	1.00			Seepage	1.00
		Too sandy	0.50			Too sandy	0.50
						Gravel content	0.14

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
81B:							
Quillamook	25	Somewhat limited		Not limited		Very limited	
		Too clayey	0.50			Hard to compact	1.00
						Too clayey	0.50
81C:							
Quillamook, gravelly substratum	60	Very limited		Somewhat limited		Very limited	
		Seepage, bottom layer	1.00	Slope	0.04	Seepage	1.00
						Too sandy	0.50
		Too sandy	0.50			Gravel content	0.14
		Slope	0.04			Slope	0.04
Quillamook	25	Somewhat limited		Somewhat limited		Very limited	
		Too clayey	0.50	Slope	0.04	Hard to compact	1.00
		Slope	0.04			Too clayey	0.50
						Slope	0.04
89A:							
Udifluvents	40	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Flooding	1.00	Seepage	0.50
		Seepage, bottom layer	1.00	Seepage	1.00		
Riverwash	30	Not rated		Not rated		Not rated	
Water	25	Not rated		Not rated		Not rated	
90A:							
Yachats	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Seepage	1.00		
91A:							
Gauldy	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Gravel content	0.61
						Too sandy	0.50
		Too sandy	0.50				
92A:							
Yachats	45	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Seepage	1.00		
Gauldy	40	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Gravel content	0.61
						Too sandy	0.50
		Too sandy	0.50				
93B:							
Gauldy, occasional flooding	50	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Gravel content	0.61
						Too sandy	0.50
		Too sandy	0.50				

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
93B:							
Gauldy, rare flooding	35	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
		Too sandy	0.50	Flooding	0.40	Gravel content	0.61
		Flooding	0.40			Too sandy	0.50
94B:							
Ginger	35	Very limited		Very limited		Very limited	
		Too clayey	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00			Too clayey	1.00
		Seepage, bottom layer	1.00				
Quillamook	30	Somewhat limited		Not limited		Very limited	
		Too clayey	0.50			Hard to compact	1.00
						Too clayey	0.50
Urban land	30	Not rated		Not rated		Not rated	
95B:							
Urban land	55	Not rated		Not rated		Not rated	
Quillamook	30	Somewhat limited		Not limited		Very limited	
		Too clayey	0.50			Hard to compact	1.00
						Too clayey	0.50
96B:							
Ginger	40	Very limited		Very limited		Very limited	
		Too clayey	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00			Too clayey	1.00
		Seepage, bottom layer	1.00				
Hebo	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
99:							
Beaches	95	Not rated		Not rated		Not rated	
100B:							
Urban land	65	Not rated		Not rated		Not rated	
Udorthents	25	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Gravel content	1.00
						Seepage	0.63
101B:							
Urban land, flooded	65	Not rated		Not rated		Not rated	
Udorthents, flooded	25	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Gravel content	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.63

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
102A:							
Fluvaquents, diked--	60	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
		Seepage, bottom layer	1.00	Seepage	1.00		
Histosols, diked----	35	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
		Too clayey	0.50				
103A:							
Coquille, diked-----	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
		Too clayey	0.50				
104A:							
Coquille, protected	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50	Flooding	0.40	Too clayey	0.50
		Flooding	0.40				
Brenner, protected--	30	Very limited		Very limited		Very limited	
		Too clayey	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Flooding	0.40	Too clayey	1.00
		Flooding	0.40				
Nehalem, protected--	15	Very limited		Not limited		Not limited	
		Seepage, bottom layer	1.00				
110F:							
Waldport, thin surface------------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
		Too sandy	1.00			Too sandy	1.00
115A:							
Aquepts-------------	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
		Too clayey	0.50				
116A:							
Aquepts, warm-------	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
		Too clayey	0.50				

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
118B:							
Oxyaquic Hapludands, flood plains	45	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Seepage	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.80
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	0.50
		Too sandy	0.50				
Alic Hapludands, terraces	30	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
		Too sandy	0.50			Too sandy	0.50
119B:							
Oxyaquic Fulvudands, flood plains	45	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Seepage	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.76
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	0.50
						Gravel content	0.29
		Too sandy	0.50			Large stones	0.18
		Large stones	0.18				
Typic Fulvudands, terraces	30	Very limited		Not limited		Very limited	
		Seepage, bottom layer	1.00			Hard to compact	1.00
120C:							
Alic Hapludands, terraces	60	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
		Too sandy	0.50			Too sandy	0.50
Alic Hapludands, fans	35	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.37	Slope	0.37	Slope	0.37
121D:							
Fendall	50	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Too clayey	0.50
Munsoncreek	30	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to bedrock	0.01	Too clayey	0.50
		Too clayey	0.50			Depth to bedrock	0.01
125B:							
Siletz	80	Very limited		Not limited		Somewhat limited	
		Seepage, bottom layer	1.00			Too clayey	0.50
		Too clayey	0.50				

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
126B:							
Siletz, warm	80	Very limited		Not limited		Not limited	
		Seepage, bottom layer	1.00				
		Too clayey	0.50				
127C:							
Condorbridge, warm	80	Somewhat limited		Very limited		Somewhat limited	
		Too clayey	0.50	Seepage	1.00	Too clayey	0.50
128B:							
Siletz	45	Very limited		Not limited		Somewhat limited	
		Seepage, bottom layer	1.00			Too clayey	0.50
		Too clayey	0.50				
Wolfer	40	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
						Gravel content	0.40
144F:							
Harslow, south slopes	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
Rock outcrop, south slopes	30	Not rated		Not rated		Not rated	
Klistan, south slopes	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	0.88	Depth to bedrock	0.88
145F:							
Rock outcrop	60	Not rated		Not rated		Not rated	
Harslow	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
156F:							
Sevencedars	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Newanna	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Large stones	0.66			Large stones	0.66
157D:							
Caterl, till substratum	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones	0.50			Large stones	0.50

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
157E:							
Caterl, till substratum	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones	0.50			Large stones	0.50
157F:							
Caterl, till substratum	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones	0.50			Large stones	0.50
158D:							
Sevencedars, till substratum	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
158E:							
Sevencedars, till substratum	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
158F:							
Sevencedars, till substratum	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
159D:							
Sevencedars, clayey	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones	0.89			Large stones	0.89
		Too clayey	0.50			Too clayey	0.50
161D:							
Sevencedars	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Newanna	30	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones	0.66			Large stones	0.66
Woodspoint	25	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Hard to compact	1.00
		Slope	1.00	Depth to bedrock	0.54	Slope	1.00
						Depth to bedrock	0.54
161E:							
Sevencedars	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Newanna	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Large stones	0.66			Large stones	0.66
Woodspoint	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	0.54	Hard to compact	1.00
						Depth to bedrock	0.54

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
161F:							
Newanna	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Large stones	0.66			Large stones	0.66
Sevencedars	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Rock outcrop	20	Not rated		Not rated		Not rated	
162D:							
Mosscreek	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Hard to compact	1.00
						Slope	1.00
Fawceter	40	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to bedrock	0.02	Depth to bedrock	0.02
162E:							
Mosscreek	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Hard to compact	1.00
Fawceter	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	0.02	Depth to bedrock	0.02
163F:							
Fawceter	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	0.02	Depth to bedrock	0.02
Killam	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
Mosscreek	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Hard to compact	1.00
164F:							
Killam	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
Fawceter	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	0.02	Depth to bedrock	0.02
Rock outcrop	20	Not rated		Not rated		Not rated	
166F:							
Rock outcrop	60	Not rated		Not rated		Not rated	

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Trench sanitary landfill: Value	Area sanitary landfill: Rating class and limiting features	Area sanitary landfill: Value	Daily cover for landfill: Rating class and limiting features	Daily cover for landfill: Value
166F:							
Killam	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
170A:							
Logsden	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Too clayey	0.50	Flooding	0.40	Too clayey	0.50
		Flooding	0.40				
170B:							
Logsden	50	Somewhat limited		Somewhat limited		Somewhat limited	
		Too clayey	0.50	Flooding	0.40	Too clayey	0.50
		Flooding	0.40				
Nehalem, occasional flooding	40	Very limited		Very limited		Not limited	
		Flooding	1.00	Flooding	1.00		
		Seepage, bottom layer	1.00				
173B:							
Tillamook	45	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.80
		Too clayey	0.50			Too clayey	0.50
Ginger	40	Very limited		Very limited		Very limited	
		Too clayey	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00			Too clayey	1.00
		Seepage, bottom layer	1.00				
173C:							
Tillamook	45	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.80
		Too clayey	0.50	Slope	0.04	Too clayey	0.50
		Slope	0.04			Slope	0.04
Ginger	40	Very limited		Very limited		Very limited	
		Too clayey	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.04	Too clayey	1.00
		Seepage, bottom layer	1.00			Slope	0.04
		Slope	0.04				
174C:							
Typic Fulvudands, terraces	60	Very limited		Not limited		Very limited	
		Seepage, bottom layer	1.00			Hard to compact	1.00
Typic Fulvudands, fans	35	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.37	Slope	0.37	Slope	0.37

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
175D:							
Astoria	80	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to bedrock	0.32	Too clayey	0.50
		Too clayey	0.50			Depth to bedrock	0.32
176D:							
Preacher	65	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to bedrock	0.26	Too clayey	0.50
		Too clayey	0.50			Depth to bedrock	0.26
Bohannon	20	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Too clayey	0.50
176E:							
Preacher	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	0.26	Too clayey	0.50
		Too clayey	0.50			Depth to bedrock	0.26
Bohannon	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	0.50			Too clayey	0.50
177B:							
Dystrudepts	65	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.93
		Too clayey	0.50			Too clayey	0.50
Aquepts	30	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
		Too clayey	0.50				
178B:							
Fluventic Humic Dystrudepts	45	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	0.14
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
		Seepage, bottom layer	1.00				
Dystrudepts	25	Very limited		Not limited		Not limited	
		Seepage, bottom layer	1.00				
Aquepts	20	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
		Too clayey	0.50				

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
180D:							
Salander------------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Hard to compact	1.00
						Slope	1.00
180E:							
Salander------------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Hard to compact	1.00
Necanicum-----------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones	0.35			Large stones	0.35
180F:							
Salander------------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Hard to compact	1.00
Necanicum-----------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones	0.35			Large stones	0.35
Neskowin------------	15	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
181E:							
Neskowin------------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
Salander------------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Hard to compact	1.00
181F:							
Neskowin------------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
Rock outcrop--------	30	Not rated		Not rated		Not rated	
Necanicum-----------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones	0.35			Large stones	0.35
182D:							
Neotsu--------------	60	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Hard to compact	1.00
						Slope	1.00
Salander------------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Hard to compact	1.00
						Slope	1.00
183D:							
Winema--------------	55	Very limited		Very limited		Very limited	
		Too clayey	1.00	Slope	1.00	Too clayey	1.00
		Slope	1.00			Slope	1.00

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
183D:							
Fendall	30	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Too clayey	0.50
185F:							
Udorthents, steep	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.63
Rock outcrop	30	Not rated		Not rated		Not rated	
190D:							
Mulkey	85	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Slope	0.63
				Slope	0.63	Seepage	0.63
		Slope	0.63				
191B:							
Siletz	40	Very limited		Not limited		Somewhat limited	
		Seepage, bottom layer	1.00			Too clayey	0.50
		Too clayey	0.50				
Euchre	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00				
192A:							
Yachats, occasional flooding	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Seepage	1.00		
303F:							
Ascar	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Large stones	0.71
						Seepage	0.50
		Large stones	0.71				
Rock outcrop	40	Not rated		Not rated		Not rated	
307F:							
Braun	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
Scaponia	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	0.84	Depth to bedrock	0.84

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
309D:							
Caterl	45	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to bedrock	0.18	Depth to bedrock	0.18
Laderly	35	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
309E:							
Caterl	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	0.18	Depth to bedrock	0.18
Laderly	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
314A:							
Croquib	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Gravel content	0.07
322F:							
Harslow	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
Kilchis	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00			Seepage	0.50
						Large stones	0.09
		Large stones	0.09				
327:							
Dystrudepts, steep	95	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00		
328:							
Dystrudepts	45	Very limited		Somewhat limited		Somewhat limited	
		Seepage, bottom layer	1.00	Slope	0.16	Slope	0.16
		Slope	0.16				
Humaquepts, isomesic	40	Very limited		Very limited		Very limited	
		Too clayey	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00			Too clayey	1.00

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
329F:							
Kilchis	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00			Seepage	0.50
		Large stones	0.09			Large stones	0.09
Rock outcrop	35	Not rated		Not rated		Not rated	
338F:							
Laderly	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
Rock outcrop	35	Not rated		Not rated		Not rated	
342D:							
McMille	85	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to bedrock	0.84	Depth to bedrock	0.84
		Too clayey	0.50			Too clayey	0.50
345A:							
Mues	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Hard to compact	1.00
						Depth to saturated zone	0.80
346D:							
Murtip	75	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Hard to compact	1.00
		Slope	1.00	Depth to bedrock	0.42	Slope	1.00
						Depth to bedrock	0.42
347E:							
Murtip	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	0.42	Hard to compact	1.00
						Depth to bedrock	0.42
Caterl	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	0.18	Depth to bedrock	0.18
350E:							
Necanicum	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones	0.35			Large stones	0.35
Ascar	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Large stones	0.71
		Large stones	0.71			Seepage	0.50

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
356D:							
Rinearson	85	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to bedrock	0.26	Too clayey	0.50
		Too clayey	0.50			Depth to bedrock	0.26
357E:							
Scaponia	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	0.84	Depth to bedrock	0.84
Braun	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
358D:							
Skipanon	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Too clayey	0.50
358E:							
Skipanon	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Too clayey	0.50
359D:							
Svensen	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
359E:							
Svensen	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
363D:							
Tolke	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Hard to compact	1.00
		Too clayey	0.50			Slope	1.00
						Too clayey	0.50
371C:							
Walluski	85	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.68
		Too clayey	0.50	Slope	0.37	Too clayey	0.50
		Slope	0.37			Slope	0.37
403E:							
Astoria	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	0.32	Too clayey	0.50
		Too clayey	0.50			Depth to bedrock	0.32
420E:							
Hembre	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	0.94	Depth to bedrock	0.94
		Too clayey	0.50			Too clayey	0.50

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
420F:							
Hembre	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	0.94	Depth to bedrock	0.94
		Too clayey	0.50			Too clayey	0.50
425E:							
Klickitat	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	0.96	Large stones	1.00
		Large stones	1.00			Depth to bedrock	0.96
433D:							
Melby	80	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Too clayey	1.00
		Too clayey	1.00	Depth to bedrock	0.71	Hard to compact	1.00
		Slope	1.00			Slope	1.00
						Depth to bedrock	0.71
433E:							
Melby	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	0.71	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
						Depth to bedrock	0.71
439E:							
Tolke	70	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Hard to compact	1.00
						Too clayey	0.50
501D:							
Apt	55	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Too clayey	1.00
		Too clayey	0.50			Slope	0.63
McDuff	30	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	1.00	Slope	0.63	Too clayey	1.00
		Slope	0.63			Slope	0.63
501E:							
Apt	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Too clayey	1.00
McDuff	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	1.00			Too clayey	1.00
517A:							
Euchre	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00				

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
519D:							
Fendall	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	0.50			Too clayey	0.50
Winema	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	1.00			Too clayey	1.00
532D:							
Klootchie	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Hard to compact	1.00
		Too clayey	0.50			Slope	1.00
						Too clayey	0.50
Neotsu	35	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Hard to compact	1.00
						Slope	1.00
532E:							
Klootchie	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Hard to compact	1.00
						Too clayey	0.50
Neotsu	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
						Hard to compact	1.00
543F:							
Neotsu	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
						Hard to compact	1.00
Necanicum	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones	0.35			Large stones	0.35
552F:							
Reedsport	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
Tolovana	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Too clayey	0.50
555D:							
Templeton	55	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Slope	1.00
		Slope	1.00			Too clayey	0.50
		Too clayey	0.50				
Fendall	30	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Too clayey	0.50

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
556D:							
Tolovana	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Too clayey	0.50
Reedsport	35	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
556E:							
Tolovana	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Too clayey	0.50
Reedsport	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
611B:							
Dystrudepts, warm	50	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.93
		Too clayey	0.50			Too clayey	0.50
Aquepts, warm	30	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
		Too clayey	0.50				
Humaquepts, warm	15	Very limited		Very limited		Very limited	
		Too clayey	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00			Too clayey	1.00
W:							
Water	100	Not rated		Not rated		Not rated	

Table 18.--Source of Gravel and Sand

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Gravel source: Rating class and limiting features	Gravel source: Value	Sand source: Rating class and limiting features	Sand source: Value
1A:					
Brenner	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
2A:					
Fluvaquents	60	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.25	Bottom layer	0.02
Histosols	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
3A:					
Coquille	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
4D:					
Ginsberg	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
4E:					
Ginsberg	60	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Klistan	20	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.50	Thickest layer	0.00
5E:					
Ferrelo	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.02
		Thickest layer	0.00	Bottom layer	0.36
6D:					
Horseprairie	65	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.08
Ferrelo	25	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.02
		Thickest layer	0.00	Bottom layer	0.36
7:					
Dune land	80	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.76
		Thickest layer	0.00	Thickest layer	0.76

Table 18.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Gravel source: Rating class and limiting features	Value	Sand source: Rating class and limiting features	Value
8A:					
Depoe	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.64
9B:					
Waldport	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.36
		Thickest layer	0.00	Bottom layer	0.43
9C:					
Waldport	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.36
		Thickest layer	0.00	Bottom layer	0.43
9D:					
Waldport	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.36
		Thickest layer	0.00	Bottom layer	0.43
9E:					
Waldport	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.36
		Thickest layer	0.00	Bottom layer	0.43
10B:					
Waldport, thin surface	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.31
		Thickest layer	0.00	Bottom layer	0.43
10C:					
Waldport, thin surface	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.31
		Thickest layer	0.00	Bottom layer	0.43
10E:					
Waldport, thin surface	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.31
		Thickest layer	0.00	Bottom layer	0.43
11B:					
Netarts	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.23
		Thickest layer	0.00	Bottom layer	0.43
11C:					
Netarts	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.23
		Thickest layer	0.00	Bottom layer	0.43
11D:					
Netarts	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.23
		Thickest layer	0.00	Bottom layer	0.43
11E:					
Netarts	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.23
		Thickest layer	0.00	Bottom layer	0.43

Table 18.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Gravel source: Rating class and limiting features	Gravel source: Value	Sand source: Rating class and limiting features	Sand source: Value
12B:					
Yaquina-------------	85	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.43
		Thickest layer	0.00	Thickest layer	0.43
13B:					
Waldport, thin surface------------	70	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.31
		Thickest layer	0.00	Bottom layer	0.43
Heceta--------------	25	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.31
		Thickest layer	0.00	Bottom layer	0.79
14A:					
Heceta--------------	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.31
		Thickest layer	0.00	Bottom layer	0.79
15B:					
Netarts-------------	50	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.23
		Thickest layer	0.00	Bottom layer	0.43
Yaquina-------------	45	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.43
		Thickest layer	0.00	Thickest layer	0.43
16F:					
Caterl--------------	45	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Laderly-------------	25	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Murtip--------------	20	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
17B:					
Chitwood------------	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Hebo----------------	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
18B:					
Chitwood------------	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
18C:					
Chitwood------------	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 18.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Gravel source: Rating class and limiting features	Value	Sand source: Rating class and limiting features	Value
19E:					
Klootchie	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
20D:					
Klootchie	60	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Necanicum	25	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
20E:					
Klootchie	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Necanicum	30	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
21F:					
Necanicum	40	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Ascar	25	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Klootchie	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
22F:					
Ascar	35	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Necanicum	30	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Rock outcrop	20	Not rated		Not rated	
23F:					
Rock outcrop	60	Not rated		Not rated	
Ascar	25	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
24C:					
Lebam	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 18.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Gravel source: Rating class and limiting features	Gravel source: Value	Sand source: Rating class and limiting features	Sand source: Value
24D:					
Lebam	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
25E:					
Lebam	60	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Necanicum	20	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
26F:					
Lebam	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Necanicum	25	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
28D:					
Templeton	60	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Necanicum	25	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
29D:					
Templeton	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Klootchie	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
29E:					
Templeton	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Klootchie	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
30D:					
Templeton	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
30E:					
Templeton	60	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 18.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Gravel source: Rating class and limiting features	Gravel source: Value	Sand source: Rating class and limiting features	Sand source: Value
30E:					
Ecola	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
30F:					
Templeton	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Ecola	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
31D:					
Tolovana	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Templeton	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
31E:					
Tolovana	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Templeton	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
32D:					
Munsoncreek	65	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Flowerpot	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
32E:					
Munsoncreek	65	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Templeton	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
33D:					
Tolovana	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
37D:					
Templeton	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 18.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Gravel source: Rating class and limiting features	Gravel source: Value	Sand source: Rating class and limiting features	Sand source: Value
37D:					
Skipanon	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
37E:					
Templeton	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Skipanon	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
38E:					
Templeton	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Necanicum	35	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
43F:					
Klistan	35	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.50	Thickest layer	0.00
Harslow	30	Fair		Poor	
		Thickest layer	0.11	Bottom layer	0.00
		Bottom layer	0.14	Thickest layer	0.00
Hemcross	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
44E:					
Klistan	35	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.50	Thickest layer	0.00
Harslow	30	Fair		Poor	
		Thickest layer	0.11	Bottom layer	0.00
		Bottom layer	0.14	Thickest layer	0.00
Rock outcrop	20	Not rated		Not rated	
44F:					
Harslow	35	Fair		Poor	
		Thickest layer	0.11	Bottom layer	0.00
		Bottom layer	0.14	Thickest layer	0.00
Klistan	30	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.50	Thickest layer	0.00
Rock outcrop	20	Not rated		Not rated	
45B:					
Hebo	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 18.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Gravel source: Rating class and limiting features	Value	Sand source: Rating class and limiting features	Value
48D:					
Hemcross	60	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Klistan	25	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.50	Thickest layer	0.00
48E:					
Hemcross	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Klistan	35	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.50	Thickest layer	0.00
50B:					
Walluski	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
51B:					
Walluski	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Chitwood	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
51C:					
Walluski	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Chitwood	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
54B:					
Knappa	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
55A:					
Histosols	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Water	45	Not rated		Not rated	
56B:					
Wolfer	80	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.43	Thickest layer	0.00
56C:					
Wolfer	85	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.43	Thickest layer	0.00

Table 18.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Gravel source: Rating class and limiting features	Value	Sand source: Rating class and limiting features	Value
57B:					
Condorbridge	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
57C:					
Condorbridge	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
58C:					
Knappa	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
59B:					
Chitwood	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Knappa	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
60E:					
Caterl	35	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Laderly	30	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Rock outcrop	25	Not rated		Not rated	
60F:					
Laderly	35	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Caterl	30	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Rock outcrop	20	Not rated		Not rated	
61F:					
Laderly, south slopes	40	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Rock outcrop, south slopes	25	Not rated		Not rated	
Caterl, south slopes	20	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
62F:					
Rock outcrop	60	Not rated		Not rated	

Table 18.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Gravel source: Rating class and limiting features	Gravel source: Value	Sand source: Rating class and limiting features	Sand source: Value
62F:					
Laderly	25	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
70D:					
Murtip	45	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Caterl	30	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Laderly	15	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
70E:					
Murtip	40	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Caterl	30	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Laderly	15	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
71D:					
McMille	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Mutt	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
72D:					
Caterl, clayey	60	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Murtip, clayey	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
73A:					
Nehalem, frequent flooding	75	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
74A:					
Nehalem, occasional flooding	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 18.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Gravel source: Rating class and limiting features	Value	Sand source: Rating class and limiting features	Value
76A:					
Nestucca	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
77A:					
Nestucca	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Brenner	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
80B:					
Quillamook	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
81B:					
Quillamook, gravelly substratum	60	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.57	Bottom layer	0.11
Quillamook	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
81C:					
Quillamook, gravelly substratum	60	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.57	Bottom layer	0.11
Quillamook	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
89A:					
Udifluvents	40	Poor		Fair	
		Thickest layer	0.00	Bottom layer	0.03
		Bottom layer	0.00	Thickest layer	0.04
Riverwash	30	Not rated		Not rated	
Water	25	Not rated		Not rated	
90A:					
Yachats	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
91A:					
Gauldy	85	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.04
		Bottom layer	0.88	Bottom layer	0.14
92A:					
Yachats	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 18.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Gravel source: Rating class and limiting features	Gravel source: Value	Sand source: Rating class and limiting features	Sand source: Value
92A:					
Gauldy--------------	40	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.04
		Bottom layer	0.88	Bottom layer	0.14
93B:					
Gauldy, occasional flooding-----------	50	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.04
		Bottom layer	0.88	Bottom layer	0.14
Gauldy, rare flooding-----------	35	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.04
		Bottom layer	0.88	Bottom layer	0.14
94B:					
Ginger--------------	35	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.57	Bottom layer	0.04
Quillamook----------	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Urban land----------	30	Not rated		Not rated	
95B:					
Urban land----------	55	Not rated		Not rated	
Quillamook----------	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
96B:					
Ginger--------------	40	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.57	Bottom layer	0.04
Hebo----------------	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
99:					
Beaches-------------	95	Not rated		Not rated	
100B:					
Urban land----------	65	Not rated		Not rated	
Udorthents----------	25	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.03
		Bottom layer	0.38	Thickest layer	0.03
101B:					
Urban land, flooded	65	Not rated		Not rated	
Udorthents, flooded	25	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.03
		Bottom layer	0.38	Thickest layer	0.03

Table 18.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Gravel source: Rating class and limiting features	Gravel source: Value	Sand source: Rating class and limiting features	Sand source: Value
102A:					
Fluvaquents, diked	60	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.25	Bottom layer	0.02
Histosols, diked	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
103A:					
Coquille, diked	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
104A:					
Coquille, protected	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Brenner, protected	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Nehalem, protected	15	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
110F:					
Waldport, thin surface	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.31
		Thickest layer	0.00	Bottom layer	0.43
115A:					
Aquepts	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
116A:					
Aquepts, warm	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
118B:					
Oxyaquic Hapludands, flood plains	45	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.14	Bottom layer	0.07
Alic Hapludands, terraces	30	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
119B:					
Oxyaquic Fulvudands, flood plains	45	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00

Table 18.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Gravel source: Rating class and limiting features	Gravel source: Value	Sand source: Rating class and limiting features	Sand source: Value
119B:					
Typic Fulvudands, terraces-----------	30	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
120C:					
Alic Hapludands, terraces-----------	60	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Alic Hapludands, fans---------------	35	Fair		Poor	
		Bottom layer	0.12	Bottom layer	0.00
		Thickest layer	0.25	Thickest layer	0.00
121D:					
Fendall-------------	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Munsoncreek---------	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
125B:					
Siletz--------------	80	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.57	Bottom layer	0.08
126B:					
Siletz, warm--------	80	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.57	Bottom layer	0.08
127C:					
Condorbridge, warm--	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
128B:					
Siletz--------------	45	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.57	Bottom layer	0.08
Wolfer--------------	40	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.43	Thickest layer	0.00
144F:					
Harslow, south slopes-------------	40	Fair		Poor	
		Thickest layer	0.11	Bottom layer	0.00
		Bottom layer	0.14	Thickest layer	0.00
Rock outcrop, south slopes-------------	30	Not rated		Not rated	
Klistan, south slopes-------------	20	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.50	Thickest layer	0.00

Table 18.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Gravel source: Rating class and limiting features	Gravel source: Value	Sand source: Rating class and limiting features	Sand source: Value
145F:					
Rock outcrop--------	60	Not rated		Not rated	
Harslow-------------	25	Fair		Poor	
		Thickest layer	0.11	Bottom layer	0.00
		Bottom layer	0.14	Thickest layer	0.00
156F:					
Sevencedars---------	55	Poor		Poor	
		Organic matter content	0.00	Thickest layer	0.00
		Bottom layer	0.00	Organic matter content	0.00
		Thickest layer	0.00	Bottom layer	0.03
Newanna-------------	30	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
157D:					
Caterl, till substratum---------	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
157E:					
Caterl, till substratum---------	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
157F:					
Caterl, till substratum---------	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
158D:					
Sevencedars, till substratum---------	80	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.03
158E:					
Sevencedars, till substratum---------	80	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.03
158F:					
Sevencedars, till substratum---------	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.03
159D:					
Sevencedars, clayey	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 18.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Gravel source: Rating class and limiting features	Value	Sand source: Rating class and limiting features	Value
161D:					
Sevencedars	35	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.03
Newanna	30	Poor		Poor	
		Organic matter content	0.00	Bottom layer	0.00
				Thickest layer	0.00
		Thickest layer	0.00	Organic matter content	0.00
		Bottom layer	0.00		
Woodspoint	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
161E:					
Sevencedars	50	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.03
Newanna	20	Poor		Poor	
		Organic matter content	0.00	Bottom layer	0.00
				Thickest layer	0.00
		Thickest layer	0.00	Organic matter content	0.00
		Bottom layer	0.00		
Woodspoint	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
161F:					
Newanna	35	Poor		Poor	
		Organic matter content	0.00	Bottom layer	0.00
				Thickest layer	0.00
		Thickest layer	0.00	Organic matter content	0.00
		Bottom layer	0.00		
Sevencedars	35	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.03
Rock outcrop	20	Not rated		Not rated	
162D:					
Mosscreek	50	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Fawceter	40	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.14	Thickest layer	0.00
162E:					
Mosscreek	50	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Fawceter	45	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.14	Thickest layer	0.00

Table 18.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Gravel source: Rating class and limiting features	Gravel source: Value	Sand source: Rating class and limiting features	Sand source: Value
163F:					
Fawceter	40	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.14	Thickest layer	0.00
Killam	25	Fair		Poor	
		Thickest layer	0.01	Bottom layer	0.00
		Bottom layer	0.50	Thickest layer	0.00
Mosscreek	20	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
164F:					
Killam	35	Fair		Poor	
		Thickest layer	0.01	Bottom layer	0.00
		Bottom layer	0.50	Thickest layer	0.00
Fawceter	30	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.14	Thickest layer	0.00
Rock outcrop	20	Not rated		Not rated	
166F:					
Rock outcrop	60	Not rated		Not rated	
Killam	25	Fair		Poor	
		Thickest layer	0.01	Bottom layer	0.00
		Bottom layer	0.50	Thickest layer	0.00
170A:					
Logsden	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
170B:					
Logsden	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Nehalem, occasional flooding	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
173B:					
Tillamook	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Ginger	40	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.57	Bottom layer	0.04
173C:					
Tillamook	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Ginger	40	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.57	Bottom layer	0.04

Table 18.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Gravel source: Rating class and limiting features	Gravel source: Value	Sand source: Rating class and limiting features	Sand source: Value
174C:					
Typic Fulvudands, terraces	60	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Typic Fulvudands, fans	35	Fair		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.25	Thickest layer	0.00
175D:					
Astoria	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
176D:					
Preacher	65	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Bohannon	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
176E:					
Preacher	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Bohannon	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
177B:					
Dystrudepts	65	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Aquepts	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
178B:					
Fluventic Humic Dystrudepts	45	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Dystrudepts	25	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.01
Aquepts	20	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
180D:					
Salander	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 18.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Gravel source: Rating class and limiting features	Value	Sand source: Rating class and limiting features	Value
180E:					
Salander	60	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Necanicum	25	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
180F:					
Salander	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Necanicum	20	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Neskowin	15	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
181E:					
Neskowin	60	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Salander	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
181F:					
Neskowin	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rock outcrop	30	Not rated		Not rated	
Necanicum	20	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
182D:					
Neotsu	60	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Salander	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
183D:					
Winema	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Fendall	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 18.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Gravel source: Rating class and limiting features	Gravel source: Value	Sand source: Rating class and limiting features	Sand source: Value
185F:					
Udorthents, steep	50	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.03
		Thickest layer	0.00	Thickest layer	0.03
Rock outcrop	30	Not rated		Not rated	
190D:					
Mulkey	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
191B:					
Siletz	40	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.57	Bottom layer	0.08
Euchre	35	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.38	Bottom layer	0.02
192A:					
Yachats, occasional flooding	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
303F:					
Ascar	50	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Rock outcrop	40	Not rated		Not rated	
307F:					
Braun	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Scaponia	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
309D:					
Caterl	45	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Laderly	35	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
309E:					
Caterl	40	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Laderly	35	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00

Table 18.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Gravel source: Rating class and limiting features	Gravel source: Value	Sand source: Rating class and limiting features	Sand source: Value
314A:					
Croquib	85	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.57	Thickest layer	0.00
322F:					
Harslow	50	Fair		Poor	
		Thickest layer	0.11	Bottom layer	0.00
		Bottom layer	0.14	Thickest layer	0.00
Kilchis	35	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
327:					
Dystrudepts, steep	95	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.01
328:					
Dystrudepts	45	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.01
Humaquepts, isomesic	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
329F:					
Kilchis	45	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Rock outcrop	35	Not rated		Not rated	
338F:					
Laderly	40	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Rock outcrop	35	Not rated		Not rated	
342D:					
McMille	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
345A:					
Mues	85	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.38	Thickest layer	0.00
346D:					
Murtip	75	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
347E:					
Murtip	45	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00

Table 18.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Gravel source: Rating class and limiting features	Gravel source: Value	Sand source: Rating class and limiting features	Sand source: Value
347E:					
Caterl	35	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
350E:					
Necanicum	45	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Ascar	30	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
356D:					
Rinearson	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
357E:					
Scaponia	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Braun	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
358D:					
Skipanon	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
358E:					
Skipanon	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
359D:					
Svensen	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.01
359E:					
Svensen	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.01
363D:					
Tolke	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
371C:					
Walluski	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
403E:					
Astoria	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 18.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Gravel source: Rating class and limiting features	Gravel source: Value	Sand source: Rating class and limiting features	Sand source: Value
420E:					
Hembre	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
420F:					
Hembre	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
425E:					
Klickitat	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
433D:					
Melby	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
433E:					
Melby	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
439E:					
Tolke	70	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
501D:					
Apt	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
McDuff	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
501E:					
Apt	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
McDuff	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
517A:					
Euchre	85	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.38	Bottom layer	0.02
519D:					
Fendall	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Winema	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 18.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Gravel source: Rating class and limiting features	Gravel source: Value	Sand source: Rating class and limiting features	Sand source: Value
532D:					
Klootchie-----------	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Neotsu--------------	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
532E:					
Klootchie-----------	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Neotsu--------------	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
543F:					
Neotsu--------------	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Necanicum-----------	35	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
552F:					
Reedsport-----------	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Tolovana------------	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
555D:					
Templeton-----------	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Fendall-------------	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
556D:					
Tolovana------------	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Reedsport-----------	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
556E:					
Tolovana------------	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Reedsport-----------	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 18.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Gravel source		Sand source	
		Rating class and limiting features	Value	Rating class and limiting features	Value
611B:					
Dystrudepts, warm---	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Aquepts, warm-------	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Humaquepts, warm----	15	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
W:					
Water---------------	100	Not rated		Not rated	

Table 19.--Source of Reclamation Material, Roadfill, and Topsoil

(Onsite investigation may be needed to validate the interpretations in this table and to confirm the identity of the soil on a given site. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
1A:							
Brenner	85	Fair		Poor		Poor	
		Too clayey	0.50	Wetness	0.00	Wetness	0.00
		Too acid	0.68	Low strength	0.00	Too clayey	0.50
		Water erosion	0.99	Shrink-swell	0.76		
2A:							
Fluvaquents	60	Fair		Poor		Poor	
		Water erosion	0.99	Wetness	0.00	Wetness	0.00
						Hard to reclaim (rock fragments)	0.00
Histosols	35	Fair		Poor		Poor	
		Too acid	0.97	Wetness	0.00	Wetness	0.00
				Low strength	0.00		
3A:							
Coquille	85	Fair		Poor		Poor	
		Too acid	0.84	Wetness	0.00	Wetness	0.00
		Water erosion	0.99	Low strength	0.00		
4D:							
Ginsberg	85	Poor		Poor		Poor	
		Wind erosion	0.00	Low strength	0.00	Slope	0.00
		Too clayey	0.02	Slope	0.82	Too clayey	0.02
		Too acid	0.08	Shrink-swell	0.95	Too acid	0.98
4E:							
Ginsberg	60	Poor		Poor		Poor	
		Wind erosion	0.00	Slope	0.00	Slope	0.00
		Too clayey	0.02	Low strength	0.00	Too clayey	0.02
		Too acid	0.08	Shrink-swell	0.95	Too acid	0.98
Klistan	20	Fair		Poor		Poor	
		Too acid	0.50	Slope	0.00	Rock fragments	0.00
		Droughty	0.80	Depth to bedrock	0.12	Slope	0.00
						Hard to reclaim (rock fragments)	0.00
5E:							
Ferrelo	90	Fair		Poor		Poor	
		Too acid	0.08	Slope	0.00	Slope	0.00
						Too acid	0.92
6D:							
Horseprairie	65	Poor		Good		Fair	
		Wind erosion	0.00			Slope	0.37
		Too acid	0.08			Too acid	0.88
Ferrelo	25	Fair		Good		Fair	
		Too acid	0.08			Slope	0.37
						Too acid	0.92

Table 19.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
7:							
Dune land	80	Not rated		Poor		Not rated	
				Slope	0.00		
8A:							
Depoe	85	Poor		Poor		Poor	
		Depth to cemented pan	0.00	Depth to cemented pan	0.00	Wetness	0.00
		Droughty	0.28	Wetness	0.00	Depth to cemented pan	0.00
		Water erosion	0.37			Too acid	0.59
9B:							
Waldport	85	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00				
		Droughty	0.00				
9C:							
Waldport	85	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00				
		Droughty	0.00				
9D:							
Waldport	85	Poor		Poor		Poor	
		Too sandy	0.00	Slope	0.00	Too sandy	0.00
		Wind erosion	0.00			Slope	0.00
		Droughty	0.00				
9E:							
Waldport	85	Poor		Poor		Poor	
		Too sandy	0.00	Slope	0.00	Slope	0.00
		Wind erosion	0.00			Too sandy	0.00
		Droughty	0.00				
10B:							
Waldport, thin surface	85	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00				
		Droughty	0.00				
10C:							
Waldport, thin surface	90	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00			Slope	0.96
		Droughty	0.00				
10E:							
Waldport, thin surface	85	Poor		Poor		Poor	
		Too sandy	0.00	Slope	0.00	Slope	0.00
		Wind erosion	0.00			Too sandy	0.00
		Droughty	0.00				
11B:							
Netarts	85	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Too acid	0.05			Too acid	0.98
		Droughty	0.71				

Table 19.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
11C:							
Netarts	90	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Too acid	0.05			Too acid	0.98
		Droughty	0.71				
11D:							
Netarts	90	Poor		Fair		Poor	
		Too sandy	0.00	Slope	0.82	Too sandy	0.00
		Too acid	0.05			Slope	0.00
		Droughty	0.71			Too acid	0.98
11E:							
Netarts	90	Poor		Poor		Poor	
		Too sandy	0.00	Slope	0.00	Slope	0.00
		Too acid	0.05			Too sandy	0.00
		Droughty	0.71			Too acid	0.98
12B:							
Yaquina	85	Poor		Poor		Poor	
		Too sandy	0.00	Wetness	0.00	Wetness	0.00
		Wind erosion	0.00			Too sandy	0.00
		Droughty	0.45				
13B:							
Waldport, thin surface	70	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00				
		Droughty	0.00				
Heceta	25	Poor		Poor		Poor	
		Wind erosion	0.00	Wetness	0.00	Wetness	0.00
		Too sandy	0.00			Too sandy	0.00
		Too acid	0.50				
14A:							
Heceta	85	Poor		Poor		Poor	
		Wind erosion	0.00	Wetness	0.00	Wetness	0.00
		Too sandy	0.00			Too sandy	0.00
		Too acid	0.50				
15B:							
Netarts	50	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Too acid	0.05			Too acid	0.98
		Droughty	0.71				
Yaquina	45	Poor		Poor		Poor	
		Too sandy	0.00	Wetness	0.00	Wetness	0.00
		Wind erosion	0.00			Too sandy	0.00
		Droughty	0.45				
16F:							
Caterl	45	Fair		Poor		Poor	
		Too acid	0.50	Slope	0.00	Hard to reclaim (rock fragments)	0.00
		Low content of organic matter	0.50	Depth to bedrock	0.82	Rock fragments	0.00
						Slope	0.00

Table 19.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
16F:							
Laderly	25	Fair		Poor		Poor	
		Droughty	0.26	Depth to bedrock	0.00	Rock fragments	0.00
		Too acid	0.50	Slope	0.00	Slope	0.00
		Depth to bedrock	0.54	Cobble content	0.78	Depth to bedrock	0.54
Murtip	20	Poor		Poor		Poor	
		Wind erosion	0.00	Slope	0.00	Slope	0.00
		Too acid	0.08	Depth to bedrock	0.58	Rock fragments	0.88
						Too acid	0.88
17B:							
Chitwood	50	Poor		Poor		Poor	
		Too clayey	0.00	Wetness	0.00	Wetness	0.00
		Too acid	0.50	Low strength	0.00	Too clayey	0.00
		Water erosion	0.99	Shrink-swell	0.89	Too acid	0.88
Hebo	35	Poor		Poor		Poor	
		Too clayey	0.00	Wetness	0.00	Too clayey	0.00
		Too acid	0.50	Low strength	0.00	Wetness	0.00
		Low content of organic matter	0.50	Shrink-swell	0.87	Too acid	0.59
18B:							
Chitwood	80	Poor		Poor		Poor	
		Too clayey	0.00	Wetness	0.00	Wetness	0.00
		Too acid	0.50	Low strength	0.00	Too clayey	0.00
		Water erosion	0.99	Shrink-swell	0.89	Too acid	0.88
18C:							
Chitwood	80	Poor		Poor		Poor	
		Too clayey	0.00	Wetness	0.00	Wetness	0.00
		Too acid	0.50	Low strength	0.00	Too clayey	0.00
		Water erosion	0.99	Shrink-swell	0.89	Slope	0.63
19E:							
Klootchie	85	Fair		Poor		Poor	
		Too acid	0.08	Slope	0.00	Slope	0.00
				Low strength	0.00	Too acid	0.88
20D:							
Klootchie	60	Fair		Poor		Poor	
		Too acid	0.08	Low strength	0.00	Slope	0.00
				Slope	0.82	Too acid	0.88
Necanicum	25	Fair		Fair		Poor	
		Too acid	0.08	Slope	0.82	Rock fragments	0.00
		Stone content	0.74	Stones	0.88	Hard to reclaim (rock fragments)	0.00
		Cobble content	0.99	Cobble content	0.97	Slope	0.00
20E:							
Klootchie	55	Fair		Poor		Poor	
		Too acid	0.08	Slope	0.00	Slope	0.00
				Low strength	0.00	Too acid	0.88
Necanicum	30	Fair		Poor		Poor	
		Too acid	0.08	Slope	0.00	Rock fragments	0.00
		Stone content	0.74	Stones	0.88	Slope	0.00
		Cobble content	0.99	Cobble content	0.97	Hard to reclaim (rock fragments)	0.00

Table 19.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
21F:							
Necanicum	40	Fair		Poor		Poor	
		Too acid	0.08	Slope	0.00	Rock fragments	0.00
		Stone content	0.74	Stones	0.88	Slope	0.00
		Cobble content	0.99	Cobble content	0.97	Hard to reclaim (rock fragments)	0.00
Ascar	25	Fair		Poor		Poor	
		Too acid	0.50	Depth to bedrock	0.00	Rock fragments	0.00
		Cobble content	0.54	Slope	0.00	Slope	0.00
		Droughty	0.83	Cobble content	0.00	Too acid	0.88
Klootchie	20	Fair		Poor		Poor	
		Too acid	0.08	Slope	0.00	Slope	0.00
				Low strength	0.00	Too acid	0.88
22F:							
Ascar	35	Fair		Poor		Poor	
		Too acid	0.50	Depth to bedrock	0.00	Rock fragments	0.00
		Cobble content	0.54	Slope	0.00	Slope	0.00
		Droughty	0.83	Cobble content	0.00	Too acid	0.88
Necanicum	30	Fair		Poor		Poor	
		Too acid	0.08	Slope	0.00	Rock fragments	0.00
		Stone content	0.74	Stones	0.88	Slope	0.00
		Cobble content	0.99	Cobble content	0.97	Hard to reclaim (rock fragments)	0.00
Rock outcrop	20	Not rated		Not rated		Not rated	
23F:							
Rock outcrop	60	Not rated		Not rated		Not rated	
Ascar	25	Fair		Poor		Poor	
		Too acid	0.50	Depth to bedrock	0.00	Rock fragments	0.00
		Cobble content	0.54	Slope	0.00	Slope	0.00
		Droughty	0.83	Cobble content	0.00	Too acid	0.88
24C:							
Lebam	85	Fair		Poor		Fair	
		Too acid	0.08	Low strength	0.00	Too clayey	0.18
		Too clayey	0.18	Shrink-swell	0.94	Too acid	0.88
		Water erosion	0.99				
24D:							
Lebam	85	Fair		Poor		Poor	
		Too acid	0.08	Low strength	0.00	Slope	0.00
		Too clayey	0.18	Slope	0.82	Too clayey	0.18
		Water erosion	0.99	Shrink-swell	0.94	Too acid	0.88
25E:							
Lebam	60	Fair		Poor		Poor	
		Too acid	0.08	Slope	0.00	Slope	0.00
		Too clayey	0.18	Low strength	0.00	Too clayey	0.18
		Water erosion	0.99	Shrink-swell	0.94	Too acid	0.88
Necanicum	20	Fair		Poor		Poor	
		Too acid	0.08	Slope	0.00	Rock fragments	0.00
		Stone content	0.74	Stones	0.88	Slope	0.00
		Cobble content	0.99	Cobble content	0.97	Hard to reclaim (rock fragments)	0.00

Table 19.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
26F:							
Lebam	55	Fair		Poor		Poor	
		Too acid	0.08	Slope	0.00	Slope	0.00
		Too clayey	0.18	Low strength	0.00	Too clayey	0.18
		Water erosion	0.99	Shrink-swell	0.94	Too acid	0.88
Necanicum	25	Fair		Poor		Poor	
		Too acid	0.08	Slope	0.00	Rock fragments	0.00
		Stone content	0.74	Stones	0.88	Slope	0.00
		Cobble content	0.99	Cobble content	0.97	Hard to reclaim (rock fragments)	0.00
28D:							
Templeton	60	Fair		Poor		Poor	
		Too acid	0.08	Low strength	0.00	Slope	0.00
		Too clayey	0.98	Slope	0.82	Too acid	0.50
		Water erosion	0.99			Too clayey	0.98
Necanicum	25	Fair		Fair		Poor	
		Too acid	0.08	Slope	0.82	Rock fragments	0.00
		Stone content	0.74	Stones	0.88	Hard to reclaim (rock fragments)	0.00
		Cobble content	0.99	Cobble content	0.97	Slope	0.00
29D:							
Templeton	50	Fair		Poor		Poor	
		Too acid	0.08	Low strength	0.00	Slope	0.00
		Too clayey	0.98	Slope	0.82	Too acid	0.50
		Water erosion	0.99			Too clayey	0.98
Klootchie	35	Fair		Poor		Poor	
		Too acid	0.08	Low strength	0.00	Slope	0.00
				Slope	0.82	Too acid	0.88
29E:							
Templeton	45	Fair		Poor		Poor	
		Too acid	0.08	Slope	0.00	Slope	0.00
		Too clayey	0.98	Low strength	0.00	Too acid	0.50
		Water erosion	0.99			Too clayey	0.98
Klootchie	40	Fair		Poor		Poor	
		Too acid	0.08	Slope	0.00	Slope	0.00
				Low strength	0.00	Too acid	0.88
30D:							
Templeton	85	Fair		Poor		Poor	
		Too acid	0.08	Low strength	0.00	Slope	0.00
		Too clayey	0.98	Slope	0.82	Too acid	0.50
		Water erosion	0.99			Too clayey	0.98
30E:							
Templeton	60	Fair		Poor		Poor	
		Too acid	0.08	Slope	0.00	Slope	0.00
		Too clayey	0.98	Low strength	0.00	Too acid	0.50
		Water erosion	0.99			Too clayey	0.98
Ecola	20	Fair		Poor		Poor	
		Too acid	0.50	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.93	Slope	0.00	Too acid	0.88
		Water erosion	0.99	Low strength	0.00	Depth to bedrock	0.93

Table 19.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
30F:							
Templeton-----------	45	Fair		Poor		Poor	
		Too acid	0.08	Slope	0.00	Slope	0.00
		Too clayey	0.98	Low strength	0.00	Too acid	0.50
		Water erosion	0.99			Too clayey	0.98
Ecola---------------	40	Fair		Poor		Poor	
		Too acid	0.50	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.93	Slope	0.00	Too acid	0.88
		Water erosion	0.99	Low strength	0.00	Depth to bedrock	0.93
31D:							
Tolovana------------	45	Poor		Poor		Poor	
		Wind erosion	0.00	Low strength	0.00	Slope	0.00
		Too acid	0.05	Slope	0.82	Too acid	0.76
		Low content of organic matter	0.88	Shrink-swell	0.87		
Templeton-----------	40	Fair		Poor		Poor	
		Too acid	0.08	Low strength	0.00	Slope	0.00
		Too clayey	0.98	Slope	0.82	Too acid	0.50
		Water erosion	0.99			Too clayey	0.98
31E:							
Tolovana------------	50	Poor		Poor		Poor	
		Wind erosion	0.00	Slope	0.00	Slope	0.00
		Too acid	0.05	Low strength	0.00	Too acid	0.76
		Low content of organic matter	0.88	Shrink-swell	0.87		
Templeton-----------	25	Fair		Poor		Poor	
		Too acid	0.08	Slope	0.00	Slope	0.00
		Too clayey	0.98	Low strength	0.00	Too acid	0.50
		Water erosion	0.99			Too clayey	0.98
32D:							
Munsoncreek---------	65	Fair		Poor		Poor	
		Too clayey	0.02	Low strength	0.00	Slope	0.00
		Too acid	0.08	Slope	0.82	Too clayey	0.02
		Water erosion	0.99	Shrink-swell	0.95	Too acid	0.76
Flowerpot-----------	20	Fair		Poor		Poor	
		Too acid	0.01	Low strength	0.00	Slope	0.00
		Too clayey	0.02	Wetness	0.02	Wetness	0.02
				Shrink-swell	0.50	Too clayey	0.02
32E:							
Munsoncreek---------	65	Fair		Poor		Poor	
		Too clayey	0.02	Slope	0.00	Slope	0.00
		Too acid	0.08	Low strength	0.00	Too clayey	0.02
		Water erosion	0.99	Shrink-swell	0.95	Too acid	0.76
Templeton-----------	20	Fair		Poor		Poor	
		Too acid	0.08	Slope	0.00	Slope	0.00
		Too clayey	0.98	Low strength	0.00	Too acid	0.50
		Water erosion	0.99			Too clayey	0.98

Table 19.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
33D:							
Tolovana------------	85	Poor		Poor		Poor	
		Wind erosion	0.00	Low strength	0.00	Slope	0.00
		Too acid	0.05	Slope	0.82	Too acid	0.76
		Low content of organic matter	0.88	Shrink-swell	0.87		
37D:							
Templeton-----------	45	Fair		Poor		Poor	
		Too acid	0.08	Low strength	0.00	Slope	0.00
		Too clayey	0.98	Slope	0.82	Too acid	0.50
		Water erosion	0.99			Too clayey	0.98
Skipanon------------	30	Fair		Fair		Poor	
		Too acid	0.08	Low strength	0.22	Rock fragments	0.00
		Low content of organic matter	0.50	Slope	0.82	Slope	0.00
				Shrink-swell	0.96	Too acid	0.59
37E:							
Templeton-----------	55	Fair		Poor		Poor	
		Too acid	0.08	Slope	0.00	Slope	0.00
		Too clayey	0.98	Low strength	0.00	Too acid	0.50
		Water erosion	0.99			Too clayey	0.98
Skipanon------------	30	Fair		Poor		Poor	
		Too acid	0.08	Slope	0.00	Rock fragments	0.00
		Low content of organic matter	0.50	Low strength	0.22	Slope	0.00
				Shrink-swell	0.96	Too acid	0.59
38E:							
Templeton-----------	50	Fair		Poor		Poor	
		Too acid	0.08	Slope	0.00	Slope	0.00
		Too clayey	0.98	Low strength	0.00	Too acid	0.50
		Water erosion	0.99			Too clayey	0.98
Necanicum-----------	35	Fair		Poor		Poor	
		Too acid	0.08	Slope	0.00	Rock fragments	0.00
		Stone content	0.74	Stones	0.88	Slope	0.00
		Cobble content	0.99	Cobble content	0.97	Hard to reclaim (rock fragments)	0.00
43F:							
Klistan-------------	35	Fair		Poor		Poor	
		Too acid	0.50	Slope	0.00	Rock fragments	0.00
		Droughty	0.80	Depth to bedrock	0.12	Slope	0.00
						Hard to reclaim (rock fragments)	0.00
Harslow-------------	30	Fair		Poor		Poor	
		Droughty	0.22	Depth to bedrock	0.00	Rock fragments	0.00
		Too acid	0.50	Slope	0.00	Slope	0.00
		Depth to bedrock	0.97	Cobble content	0.86	Too acid	0.88
Hemcross------------	25	Poor		Poor		Poor	
		Wind erosion	0.00	Slope	0.00	Slope	0.00
		Too acid	0.08	Low strength	0.78	Too acid	0.88

Table 19.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
44E:							
Klistan	35	Fair		Poor		Poor	
		Too acid	0.50	Slope	0.00	Rock fragments	0.00
		Droughty	0.80	Depth to bedrock	0.12	Slope	0.00
						Hard to reclaim (rock fragments)	0.00
Harslow	30	Fair		Poor		Poor	
		Droughty	0.22	Depth to bedrock	0.00	Rock fragments	0.00
		Too acid	0.50	Slope	0.00	Slope	0.00
		Depth to bedrock	0.97	Cobble content	0.86	Too acid	0.88
Rock outcrop	20	Not rated		Not rated		Not rated	
44F:							
Harslow	35	Fair		Poor		Poor	
		Droughty	0.22	Depth to bedrock	0.00	Rock fragments	0.00
		Too acid	0.50	Slope	0.00	Slope	0.00
		Depth to bedrock	0.97	Cobble content	0.86	Too acid	0.88
Klistan	30	Fair		Poor		Poor	
		Too acid	0.50	Slope	0.00	Rock fragments	0.00
		Droughty	0.80	Depth to bedrock	0.12	Slope	0.00
						Hard to reclaim (rock fragments)	0.00
Rock outcrop	20	Not rated		Not rated		Not rated	
45B:							
Hebo	80	Poor		Poor		Poor	
		Too clayey	0.00	Wetness	0.00	Too clayey	0.00
		Too acid	0.50	Low strength	0.00	Wetness	0.00
		Low content of organic matter	0.50	Shrink-swell	0.87	Too acid	0.59
48D:							
Hemcross	60	Poor		Fair		Poor	
		Wind erosion	0.00	Low strength	0.78	Slope	0.00
		Too acid	0.08	Slope	0.82	Too acid	0.88
Klistan	25	Fair		Fair		Poor	
		Too acid	0.50	Depth to bedrock	0.12	Rock fragments	0.00
		Droughty	0.80	Slope	0.82	Hard to reclaim (rock fragments)	0.00
						Slope	0.00
48E:							
Hemcross	50	Poor		Poor		Poor	
		Wind erosion	0.00	Slope	0.00	Slope	0.00
		Too acid	0.08	Low strength	0.78	Too acid	0.88
Klistan	35	Fair		Poor		Poor	
		Too acid	0.50	Slope	0.00	Rock fragments	0.00
		Droughty	0.80	Depth to bedrock	0.12	Slope	0.00
						Hard to reclaim (rock fragments)	0.00

Table 19.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
50B:							
Walluski------------	80	Fair		Poor		Fair	
		Too acid	0.50	Low strength	0.00	Wetness	0.76
		Water erosion	0.99	Wetness	0.76		
				Shrink-swell	0.96		
51B:							
Walluski------------	45	Fair		Poor		Fair	
		Too acid	0.50	Low strength	0.00	Wetness	0.76
		Water erosion	0.99	Wetness	0.76		
				Shrink-swell	0.96		
Chitwood------------	40	Poor		Poor		Poor	
		Too clayey	0.00	Wetness	0.00	Wetness	0.00
		Too acid	0.50	Low strength	0.00	Too clayey	0.00
		Water erosion	0.99	Shrink-swell	0.89	Too acid	0.88
51C:							
Walluski------------	45	Fair		Poor		Fair	
		Too acid	0.50	Low strength	0.00	Wetness	0.76
		Water erosion	0.99	Wetness	0.76	Slope	0.96
				Shrink-swell	0.96		
Chitwood------------	30	Poor		Poor		Poor	
		Too clayey	0.00	Wetness	0.00	Wetness	0.00
		Too acid	0.50	Low strength	0.00	Too clayey	0.00
		Water erosion	0.99	Shrink-swell	0.89	Too acid	0.88
54B:							
Knappa--------------	85	Fair		Poor		Fair	
		Too acid	0.12	Low strength	0.00	Too acid	0.76
		Water erosion	0.99	Shrink-swell	0.96		
55A:							
Histosols-----------	55	Fair		Poor		Poor	
		Too acid	0.97	Wetness	0.00	Wetness	0.00
				Low strength	0.00		
Water---------------	45	Not rated		Not rated		Not rated	
56B:							
Wolfer--------------	80	Fair		Good		Poor	
		Too acid	0.50			Hard to reclaim (rock fragments)	0.00
		Low content of organic matter	0.50			Rock fragments	0.50
		Water erosion	0.99			Too acid	0.98
56C:							
Wolfer--------------	85	Fair		Good		Poor	
		Too acid	0.50			Hard to reclaim (rock fragments)	0.00
		Low content of organic matter	0.50			Rock fragments	0.50
		Water erosion	0.99			Slope	0.96
57B:							
Condorbridge--------	85	Fair		Poor		Poor	
		Too acid	0.61	Low strength	0.00	Rock fragments	0.00
57C:							
Condorbridge--------	80	Fair		Poor		Poor	
		Too acid	0.61	Low strength	0.00	Rock fragments	0.00

Table 19.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
58C:							
Knappa	85	Fair		Poor		Fair	
		Too acid	0.12	Low strength	0.00	Too acid	0.76
		Water erosion	0.99	Shrink-swell	0.96	Slope	0.96
59B:							
Chitwood	45	Poor		Poor		Poor	
		Too clayey	0.00	Wetness	0.00	Wetness	0.00
		Too acid	0.50	Low strength	0.00	Too clayey	0.00
		Water erosion	0.99	Shrink-swell	0.89	Too acid	0.88
Knappa	40	Fair		Poor		Fair	
		Too acid	0.12	Low strength	0.00	Too acid	0.76
		Water erosion	0.99	Shrink-swell	0.96		
60E:							
Caterl	35	Fair		Poor		Poor	
		Too acid	0.50	Slope	0.00	Hard to reclaim (rock fragments)	0.00
		Low content of organic matter	0.50	Depth to bedrock	0.82	Rock fragments	0.00
						Slope	0.00
Laderly	30	Fair		Poor		Poor	
		Droughty	0.26	Depth to bedrock	0.00	Rock fragments	0.00
		Too acid	0.50	Slope	0.00	Slope	0.00
		Depth to bedrock	0.54	Cobble content	0.78	Depth to bedrock	0.54
Rock outcrop	25	Not rated		Not rated		Not rated	
60F:							
Laderly	35	Fair		Poor		Poor	
		Droughty	0.26	Depth to bedrock	0.00	Rock fragments	0.00
		Too acid	0.50	Slope	0.00	Slope	0.00
		Depth to bedrock	0.54	Cobble content	0.78	Depth to bedrock	0.54
Caterl	30	Fair		Poor		Poor	
		Too acid	0.50	Slope	0.00	Hard to reclaim (rock fragments)	0.00
		Low content of organic matter	0.50	Depth to bedrock	0.82	Rock fragments	0.00
						Slope	0.00
Rock outcrop	20	Not rated		Not rated		Not rated	
61F:							
Laderly, south slopes	40	Fair		Poor		Poor	
		Droughty	0.26	Depth to bedrock	0.00	Rock fragments	0.00
		Too acid	0.50	Slope	0.00	Slope	0.00
		Depth to bedrock	0.54	Cobble content	0.78	Depth to bedrock	0.54
Rock outcrop, south slopes	25	Not rated		Not rated		Not rated	
Caterl, south slopes	20	Fair		Poor		Poor	
		Too acid	0.50	Slope	0.00	Hard to reclaim (rock fragments)	0.00
		Low content of organic matter	0.50	Depth to bedrock	0.82	Rock fragments	0.00
						Slope	0.00
62F:							
Rock outcrop	60	Not rated		Not rated		Not rated	

Table 19.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
62F:							
Laderly	25	Fair		Poor		Poor	
		Droughty	0.26	Depth to bedrock	0.00	Rock fragments	0.00
		Too acid	0.50	Slope	0.00	Slope	0.00
		Depth to bedrock	0.54	Cobble content	0.78	Depth to bedrock	0.54
70D:							
Murtip	45	Poor		Fair		Poor	
		Wind erosion	0.00	Depth to bedrock	0.58	Slope	0.00
		Too acid	0.08	Slope	0.82	Rock fragments	0.88
						Too acid	0.88
Caterl	30	Fair		Fair		Poor	
		Too acid	0.50	Depth to bedrock	0.82	Hard to reclaim (rock fragments)	0.00
		Low content of organic matter	0.50	Slope	0.82	Rock fragments	0.00
						Slope	0.00
Laderly	15	Fair		Poor		Poor	
		Droughty	0.26	Depth to bedrock	0.00	Rock fragments	0.00
		Too acid	0.50	Cobble content	0.78	Slope	0.00
		Depth to bedrock	0.54	Slope	0.82	Depth to bedrock	0.54
70E:							
Murtip	40	Poor		Poor		Poor	
		Wind erosion	0.00	Slope	0.00	Slope	0.00
		Too acid	0.08	Depth to bedrock	0.58	Rock fragments	0.88
						Too acid	0.88
Caterl	30	Fair		Poor		Poor	
		Too acid	0.50	Slope	0.00	Hard to reclaim (rock fragments)	0.00
		Low content of organic matter	0.50	Depth to bedrock	0.82	Rock fragments	0.00
						Slope	0.00
Laderly	15	Fair		Poor		Poor	
		Droughty	0.26	Depth to bedrock	0.00	Rock fragments	0.00
		Too acid	0.50	Slope	0.00	Slope	0.00
		Depth to bedrock	0.54	Cobble content	0.78	Depth to bedrock	0.54
71D:							
McMille	50	Fair		Poor		Poor	
		Too acid	0.50	Low strength	0.00	Slope	0.00
		Low content of organic matter	0.50	Depth to bedrock	0.16	Too acid	0.88
				Slope	0.82		
		Water erosion	0.99				
Mutt	35	Fair		Poor		Poor	
		Depth to bedrock	0.16	Depth to bedrock	0.00	Slope	0.00
		Too acid	0.50	Low strength	0.00	Depth to bedrock	0.16
		Water erosion	0.68	Slope	0.82	Too acid	0.88
72D:							
Caterl, clayey	60	Fair		Fair		Poor	
		Too acid	0.08	Cobble content	0.01	Rock fragments	0.00
		Cobble content	0.73	Depth to bedrock	0.82	Hard to reclaim (rock fragments)	0.00
				Slope	0.82	Slope	0.00

Table 19.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
72D:							
Murtip, clayey	20	Fair		Fair		Poor	
		Too acid	0.08	Cobble content	0.29	Rock fragments	0.00
		Cobble content	0.97	Depth to bedrock	0.58	Hard to reclaim (rock fragments)	0.00
				Low strength	0.78	Slope	0.00
73A:							
Nehalem, frequent flooding	75	Fair		Good		Good	
		Too acid	0.84				
		Water erosion	0.90				
74A:							
Nehalem, occasional flooding	80	Fair		Good		Good	
		Too acid	0.84				
		Water erosion	0.90				
76A:							
Nestucca	90	Fair		Poor		Fair	
		Too acid	0.32	Low strength	0.00	Wetness	0.02
		Water erosion	0.99	Wetness	0.02	Too acid	0.88
				Shrink-swell	0.76		
77A:							
Nestucca	55	Fair		Poor		Fair	
		Too acid	0.32	Low strength	0.00	Wetness	0.02
		Water erosion	0.99	Wetness	0.02	Too acid	0.88
				Shrink-swell	0.76		
Brenner	40	Fair		Poor		Poor	
		Too clayey	0.50	Wetness	0.00	Wetness	0.00
		Too acid	0.68	Low strength	0.00	Too clayey	0.50
		Water erosion	0.99	Shrink-swell	0.76		
80B:							
Quillamook	80	Fair		Poor		Fair	
		Too acid	0.20	Low strength	0.00	Too acid	0.76
		Water erosion	0.99				
81B:							
Quillamook, gravelly substratum	60	Fair		Good		Poor	
		Too acid	0.20			Hard to reclaim (rock fragments)	0.00
		Low content of organic matter	0.50			Rock fragments	0.12
		Water erosion	0.90				
Quillamook	25	Fair		Poor		Fair	
		Too acid	0.20	Low strength	0.00	Too acid	0.76
		Water erosion	0.99				
81C:							
Quillamook, gravelly substratum	60	Fair		Good		Poor	
		Too acid	0.20			Hard to reclaim (rock fragments)	0.00
		Low content of organic matter	0.50			Rock fragments	0.12
		Water erosion	0.90			Slope	0.96

Table 19.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
81C:							
Quillamook	25	Fair		Poor		Fair	
		Too acid	0.20	Low strength	0.00	Too acid	0.76
		Water erosion	0.99			Slope	0.96
89A:							
Udifluvents	40	Fair		Good		Fair	
		Too acid	0.50			Too acid	0.95
Riverwash	30	Not rated		Not rated		Not rated	
Water	25	Not rated		Not rated		Not rated	
90A:							
Yachats	85	Fair		Good		Good	
		Too acid	0.92				
91A:							
Gauldy	85	Fair		Good		Fair	
		Too acid	0.46			Rock fragments	0.02
		Low content of organic matter	0.50				
		Droughty	0.98				
92A:							
Yachats	45	Fair		Good		Good	
		Too acid	0.92				
Gauldy	40	Fair		Good		Fair	
		Too acid	0.46			Rock fragments	0.02
		Low content of organic matter	0.50				
		Droughty	0.98				
93B:							
Gauldy, occasional flooding	50	Fair		Good		Fair	
		Too acid	0.46			Rock fragments	0.02
		Low content of organic matter	0.50				
		Droughty	0.98				
Gauldy, rare flooding	35	Fair		Good		Fair	
		Too acid	0.46			Rock fragments	0.02
		Low content of organic matter	0.50				
		Droughty	0.98				
94B:							
Ginger	35	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Too acid	0.46	Wetness	0.09	Wetness	0.09
		Water erosion	0.99	Shrink-swell	0.72	Too acid	0.95
Quillamook	30	Fair		Poor		Fair	
		Too acid	0.20	Low strength	0.00	Too acid	0.76
		Water erosion	0.99				
Urban land	30	Not rated		Not rated		Not rated	

Table 19.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
95B:							
Urban land	55	Not rated		Not rated		Not rated	
Quillamook	30	Fair		Poor		Fair	
		Too acid	0.20	Low strength	0.00	Too acid	0.76
		Water erosion	0.99				
96B:							
Ginger	40	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Too acid	0.46	Wetness	0.09	Wetness	0.09
		Water erosion	0.99	Shrink-swell	0.72	Too acid	0.95
Hebo	35	Poor		Poor		Poor	
		Too clayey	0.00	Wetness	0.00	Too clayey	0.00
		Too acid	0.50	Low strength	0.00	Wetness	0.00
		Low content of organic matter	0.50	Shrink-swell	0.87	Too acid	0.59
99:							
Beaches	95	Not rated		Not rated		Not rated	
100B:							
Urban land	65	Not rated		Not rated		Not rated	
Udorthents	25	Fair		Good		Poor	
		Droughty	0.10			Hard to reclaim (rock fragments)	0.00
		Too acid	0.50			Rock fragments	0.00
						Too acid	0.59
101B:							
Urban land, flooded	65	Not rated		Not rated		Not rated	
Udorthents, flooded	25	Fair		Fair		Poor	
		Droughty	0.10	Wetness	0.02	Hard to reclaim (rock fragments)	0.00
		Too acid	0.50			Rock fragments	0.00
						Wetness	0.02
102A:							
Fluvaquents, diked	60	Fair		Poor		Poor	
		Water erosion	0.99	Wetness	0.00	Wetness	0.00
						Hard to reclaim (rock fragments)	0.00
Histosols, diked	35	Fair		Poor		Poor	
		Too acid	0.97	Wetness	0.00	Wetness	0.00
				Low strength	0.00		
103A:							
Coquille, diked	85	Fair		Poor		Poor	
		Too acid	0.08	Wetness	0.00	Wetness	0.00
		Water erosion	0.99	Low strength	0.00		
104A:							
Coquille, protected	50	Fair		Poor		Fair	
		Too acid	0.12	Low strength	0.00	Wetness	0.02
		Water erosion	0.99	Wetness	0.02	Too acid	0.59

Table 19.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
104A:							
Brenner, protected	30	Fair		Poor		Fair	
		Too acid	0.05	Low strength	0.00	Wetness	0.02
		Too clayey	0.50	Wetness	0.02	Too clayey	0.50
		Water erosion	0.99	Shrink-swell	0.76	Too acid	0.76
Nehalem, protected	15	Fair		Good		Fair	
		Too acid	0.08			Too acid	0.76
		Water erosion	0.90				
110F:							
Waldport, thin surface	85	Poor		Poor		Poor	
		Too sandy	0.00	Slope	0.00	Slope	0.00
		Wind erosion	0.00			Too sandy	0.00
		Droughty	0.00				
115A:							
Aquepts	85	Fair		Poor		Poor	
		Too clayey	0.32	Wetness	0.00	Wetness	0.00
		Too acid	0.50	Low strength	0.00	Too clayey	0.30
		Water erosion	0.99	Shrink-swell	0.89	Too acid	0.95
116A:							
Aquepts, warm	85	Fair		Poor		Poor	
		Too clayey	0.68	Wetness	0.00	Wetness	0.00
		Too acid	0.74	Low strength	0.00	Too clayey	0.64
		Water erosion	0.90	Shrink-swell	0.92		
118B:							
Oxyaquic Hapludands, flood plains	45	Fair		Fair		Poor	
		Too acid	0.50	Wetness	0.62	Hard to reclaim (rock fragments)	0.00
		Low content of organic matter	0.50			Wetness	0.62
		Water erosion	0.99			Too acid	0.95
Alic Hapludands, terraces	30	Poor		Good		Poor	
		Wind erosion	0.00			Hard to reclaim (rock fragments)	0.00
		Too acid	0.50			Rock fragments	0.88
		Low content of organic matter	0.50			Too acid	0.95
119B:							
Oxyaquic Fulvudands, flood plains	45	Fair		Fair		Poor	
		Too acid	0.50	Cobble content	0.66	Hard to reclaim (rock fragments)	0.00
		Cobble content	0.82	Wetness	0.68	Rock fragments	0.01
						Wetness	0.68
Typic Fulvudands, terraces	30	Poor		Good		Poor	
		Wind erosion	0.00			Hard to reclaim (rock fragments)	0.00
		Too acid	0.08			Rock fragments	0.88
						Too acid	0.95

Table 19.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
120C:							
Alic Hapludands, terraces	60	Poor		Good		Poor	
		Wind erosion	0.00			Hard to reclaim (rock fragments)	0.00
		Too acid	0.50			Rock fragments	0.88
		Low content of organic matter	0.50			Too acid	0.95
Alic Hapludands, fans	35	Fair		Good		Poor	
		Too acid	0.08			Rock fragments	0.00
						Hard to reclaim (rock fragments)	0.00
						Slope	0.63
121D:							
Fendall	50	Fair		Poor		Poor	
		Too clayey	0.08	Depth to bedrock	0.00	Slope	0.00
		Too acid	0.50	Low strength	0.00	Too clayey	0.06
		Depth to bedrock	0.84	Slope	0.82	Too acid	0.59
Munsoncreek	30	Fair		Poor		Poor	
		Too clayey	0.02	Low strength	0.00	Slope	0.00
		Too acid	0.08	Slope	0.82	Too clayey	0.02
		Water erosion	0.99	Shrink-swell	0.95	Too acid	0.76
125B:							
Siletz	80	Fair		Poor		Fair	
		Too acid	0.08	Low strength	0.00	Too acid	0.50
		Water erosion	0.99				
126B:							
Siletz, warm	80	Fair		Fair		Fair	
		Too acid	0.08	Low strength	0.10	Too acid	0.50
		Water erosion	0.99				
127C:							
Condorbridge, warm	80	Fair		Poor		Poor	
		Too acid	0.61	Low strength	0.00	Rock fragments	0.00
128B:							
Siletz	45	Fair		Poor		Fair	
		Too acid	0.08	Low strength	0.00	Too acid	0.50
		Water erosion	0.99				
Wolfer	40	Fair		Good		Poor	
		Too acid	0.50			Hard to reclaim (rock fragments)	0.00
		Low content of organic matter	0.50			Rock fragments	0.50
		Water erosion	0.99			Too acid	0.98
144F:							
Harslow, south slopes	40	Fair		Poor		Poor	
		Droughty	0.22	Depth to bedrock	0.00	Rock fragments	0.00
		Too acid	0.50	Slope	0.00	Slope	0.00
		Depth to bedrock	0.97	Cobble content	0.86	Too acid	0.88
Rock outcrop, south slopes	30	Not rated		Not rated		Not rated	

Table 19.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
144F:							
Klistan, south slopes	20	Fair		Poor		Poor	
		Too acid	0.50	Slope	0.00	Rock fragments	0.00
		Droughty	0.80	Depth to bedrock	0.12	Slope	0.00
						Hard to reclaim (rock fragments)	0.00
145F:							
Rock outcrop	60	Not rated		Not rated		Not rated	
Harslow	25	Fair		Poor		Poor	
		Droughty	0.22	Depth to bedrock	0.00	Rock fragments	0.00
		Too acid	0.50	Slope	0.00	Slope	0.00
		Depth to bedrock	0.97	Cobble content	0.86	Too acid	0.88
156F:							
Sevencedars	55	Fair		Poor		Poor	
		Too acid	0.08	Slope	0.00	Rock fragments	0.00
				Cobble content	0.95	Slope	0.00
						Hard to reclaim (rock fragments)	0.08
Newanna	30	Fair		Poor		Poor	
		Cobble content	0.34	Depth to bedrock	0.00	Rock fragments	0.00
		Too acid	0.50	Slope	0.00	Slope	0.00
		Droughty	0.82	Cobble content	0.00	Too acid	0.88
157D:							
Caterl, till substratum	80	Fair		Fair		Poor	
		Too acid	0.08	Cobble content	0.01	Hard to reclaim (rock fragments)	0.00
		Cobble content	0.72	Slope	0.82	Rock fragments	0.00
						Slope	0.00
157E:							
Caterl, till substratum	80	Fair		Poor		Poor	
		Too acid	0.08	Slope	0.00	Hard to reclaim (rock fragments)	0.00
		Cobble content	0.72	Cobble content	0.01	Rock fragments	0.00
						Slope	0.00
157F:							
Caterl, till substratum	80	Fair		Poor		Poor	
		Too acid	0.08	Slope	0.00	Hard to reclaim (rock fragments)	0.00
		Cobble content	0.72	Cobble content	0.01	Rock fragments	0.00
						Slope	0.00
158D:							
Sevencedars, till substratum	80	Fair		Fair		Poor	
		Too acid	0.08	Cobble content	0.43	Rock fragments	0.00
				Slope	0.82	Slope	0.00
						Hard to reclaim (rock fragments)	0.08

Table 19.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
158E:							
Sevencedars, till substratum	80	Fair		Poor		Poor	
		Too acid	0.08	Slope	0.00	Rock fragments	0.00
				Cobble content	0.43	Slope	0.00
						Hard to reclaim (rock fragments)	0.08
158F:							
Sevencedars, till substratum	85	Fair		Poor		Poor	
		Too acid	0.08	Slope	0.00	Rock fragments	0.00
				Cobble content	0.43	Slope	0.00
						Hard to reclaim (rock fragments)	0.08
159D:							
Sevencedars, clayey	85	Fair		Fair		Poor	
		Too acid	0.08	Cobble content	0.01	Rock fragments	0.00
		Stone content	0.54	Stones	0.56	Hard to reclaim (rock fragments)	0.00
		Cobble content	0.72	Slope	0.82	Slope	0.00
161D:							
Sevencedars	35	Fair		Fair		Poor	
		Too acid	0.08	Slope	0.82	Rock fragments	0.00
				Cobble content	0.95	Slope	0.00
						Hard to reclaim (rock fragments)	0.08
Newanna	30	Fair		Poor		Poor	
		Cobble content	0.34	Depth to bedrock	0.00	Rock fragments	0.00
		Too acid	0.50	Cobble content	0.00	Slope	0.00
		Droughty	0.82	Slope	0.82	Too acid	0.88
Woodspoint	25	Fair		Fair		Poor	
		Too acid	0.50	Depth to bedrock	0.46	Slope	0.00
				Slope	0.82	Hard to reclaim (rock fragments)	0.88
161E:							
Sevencedars	50	Fair		Poor		Poor	
		Too acid	0.08	Slope	0.00	Rock fragments	0.00
				Cobble content	0.95	Slope	0.00
						Hard to reclaim (rock fragments)	0.08
Newanna	20	Fair		Poor		Poor	
		Cobble content	0.34	Depth to bedrock	0.00	Rock fragments	0.00
		Too acid	0.50	Slope	0.00	Slope	0.00
		Droughty	0.82	Cobble content	0.00	Too acid	0.88
Woodspoint	20	Fair		Poor		Poor	
		Too acid	0.50	Slope	0.00	Slope	0.00
				Depth to bedrock	0.46	Hard to reclaim (rock fragments)	0.88

Table 19.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
161F:							
Newanna	35	Fair		Poor		Poor	
		Cobble content	0.34	Depth to bedrock	0.00	Rock fragments	0.00
		Too acid	0.50	Slope	0.00	Slope	0.00
		Droughty	0.82	Cobble content	0.00	Too acid	0.88
Sevencedars	35	Fair		Poor		Poor	
		Too acid	0.08	Slope	0.00	Rock fragments	0.00
				Cobble content	0.95	Slope	0.00
						Hard to reclaim (rock fragments)	0.08
Rock outcrop	20	Not rated		Not rated		Not rated	
162D:							
Mosscreek	50	Fair		Fair		Poor	
		Too acid	0.08	Low strength	0.78	Slope	0.00
		Water erosion	0.99	Slope	0.82	Hard to reclaim (rock fragments)	0.88
						Too acid	0.88
Fawceter	40	Fair		Fair		Poor	
		Too acid	0.08	Cobble content	0.77	Rock fragments	0.00
				Slope	0.82	Hard to reclaim (rock fragments)	0.00
				Depth to bedrock	0.98		
						Slope	0.00
162E:							
Mosscreek	50	Fair		Poor		Poor	
		Too acid	0.08	Slope	0.00	Slope	0.00
		Water erosion	0.99	Low strength	0.78	Hard to reclaim (rock fragments)	0.88
						Too acid	0.88
Fawceter	45	Fair		Poor		Poor	
		Too acid	0.08	Slope	0.00	Rock fragments	0.00
				Cobble content	0.77	Slope	0.00
				Depth to bedrock	0.98	Hard to reclaim (rock fragments)	0.00
163F:							
Fawceter	40	Fair		Poor		Poor	
		Too acid	0.08	Slope	0.00	Rock fragments	0.00
				Cobble content	0.77	Slope	0.00
				Depth to bedrock	0.98	Hard to reclaim (rock fragments)	0.00
Killam	25	Fair		Poor		Poor	
		Too acid	0.50	Depth to bedrock	0.00	Rock fragments	0.00
		Depth to bedrock	0.65	Slope	0.00	Slope	0.00
		Droughty	0.92	Stones	0.94	Depth to bedrock	0.65
Mosscreek	20	Fair		Poor		Poor	
		Too acid	0.08	Slope	0.00	Slope	0.00
		Water erosion	0.99	Low strength	0.78	Hard to reclaim (rock fragments)	0.88
						Too acid	0.88

Table 19.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
164F:							
Killam	35	Fair		Poor		Poor	
		Too acid	0.50	Depth to bedrock	0.00	Rock fragments	0.00
		Depth to bedrock	0.65	Slope	0.00	Slope	0.00
		Droughty	0.92	Stones	0.94	Depth to bedrock	0.65
Fawceter	30	Fair		Poor		Poor	
		Too acid	0.08	Slope	0.00	Rock fragments	0.00
				Cobble content	0.77	Slope	0.00
				Depth to bedrock	0.98	Hard to reclaim (rock fragments)	0.00
Rock outcrop	20	Not rated		Not rated		Not rated	
166F:							
Rock outcrop	60	Not rated		Not rated		Not rated	
Killam	25	Fair		Poor		Poor	
		Too acid	0.50	Depth to bedrock	0.00	Rock fragments	0.00
		Depth to bedrock	0.65	Slope	0.00	Slope	0.00
		Droughty	0.92	Stones	0.94	Depth to bedrock	0.65
170A:							
Logsden	85	Fair		Poor		Fair	
		Too acid	0.50	Low strength	0.00	Too acid	0.76
		Water erosion	0.99	Shrink-swell	0.94		
170B:							
Logsden	50	Fair		Poor		Fair	
		Too acid	0.50	Low strength	0.00	Too acid	0.76
		Water erosion	0.99	Shrink-swell	0.94		
Nehalem, occasional flooding	40	Fair		Good		Good	
		Too acid	0.84				
		Water erosion	0.90				
173B:							
Tillamook	45	Fair		Poor		Fair	
		Too acid	0.12	Low strength	0.00	Too acid	0.59
		Water erosion	0.90	Wetness	0.62	Wetness	0.62
Ginger	40	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Too acid	0.46	Wetness	0.09	Wetness	0.09
		Water erosion	0.99	Shrink-swell	0.72	Too acid	0.95
173C:							
Tillamook	45	Fair		Poor		Fair	
		Too acid	0.12	Low strength	0.00	Too acid	0.59
		Water erosion	0.90	Wetness	0.62	Wetness	0.62
						Slope	0.96
Ginger	40	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Too acid	0.46	Wetness	0.09	Wetness	0.09
		Water erosion	0.99	Shrink-swell	0.72	Slope	0.96

Table 19.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
174C:							
Typic Fulvudands, terraces	60	Poor		Good		Poor	
		Wind erosion	0.00			Hard to reclaim (rock fragments)	0.00
		Too acid	0.08			Rock fragments	0.88
						Too acid	0.95
Typic Fulvudands, fans	35	Fair		Good		Poor	
		Too acid	0.08			Rock fragments	0.00
						Hard to reclaim (rock fragments)	0.00
						Slope	0.63
175D:							
Astoria	80	Fair		Poor		Poor	
		Too clayey	0.50	Low strength	0.00	Slope	0.00
		Too acid	0.50	Depth to bedrock	0.68	Too clayey	0.39
		Low content of organic matter	0.50	Slope	0.82	Too acid	0.59
176D:							
Preacher	65	Poor		Poor		Poor	
		Wind erosion	0.00	Low strength	0.00	Slope	0.00
		Too acid	0.50	Slope	0.50	Too acid	0.41
		Too clayey	0.92	Depth to bedrock	0.74	Too clayey	0.72
Bohannon	20	Poor		Poor		Poor	
		Wind erosion	0.00	Depth to bedrock	0.00	Slope	0.00
		Too acid	0.50	Slope	0.50	Too acid	0.59
		Water erosion	0.99	Low strength	0.78	Depth to bedrock	0.99
176E:							
Preacher	55	Poor		Poor		Poor	
		Wind erosion	0.00	Slope	0.00	Slope	0.00
		Too acid	0.50	Low strength	0.00	Too acid	0.41
		Too clayey	0.92	Depth to bedrock	0.74	Too clayey	0.72
Bohannon	30	Poor		Poor		Poor	
		Wind erosion	0.00	Depth to bedrock	0.00	Slope	0.00
		Too acid	0.50	Slope	0.00	Too acid	0.59
		Water erosion	0.99	Low strength	0.78	Depth to bedrock	0.99
177B:							
Dystrudepts	65	Fair		Poor		Fair	
		Too acid	0.05	Low strength	0.00	Wetness	0.38
		Too clayey	0.92	Wetness	0.38	Too acid	0.59
		Water erosion	0.99	Shrink-swell	0.77	Too clayey	0.92
Aquepts	30	Poor		Poor		Poor	
		Too clayey	0.00	Wetness	0.00	Wetness	0.00
		Too acid	0.68	Low strength	0.00	Too clayey	0.00
		Water erosion	0.90	Shrink-swell	0.89		
178B:							
Fluventic Humic Dystrudepts	45	Fair		Good		Poor	
		Too acid	0.08			Hard to reclaim (rock fragments)	0.00
						Too acid	0.95

Table 19.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
178B:							
Dystrudepts	25	Fair		Good		Fair	
		Too acid	0.39			Too acid	0.92
		Water erosion	0.99				
Aquepts	20	Fair		Poor		Poor	
		Too acid	0.50	Wetness	0.00	Wetness	0.00
		Water erosion	0.68	Low strength	0.00	Too acid	0.95
180D:							
Salander	85	Poor		Fair		Poor	
		Wind erosion	0.00	Slope	0.82	Slope	0.00
		Too acid	0.08			Too acid	0.59
180E:							
Salander	60	Poor		Poor		Poor	
		Wind erosion	0.00	Slope	0.00	Slope	0.00
		Too acid	0.08			Too acid	0.59
Necanicum	25	Fair		Poor		Poor	
		Too acid	0.08	Slope	0.00	Rock fragments	0.00
		Stone content	0.74	Stones	0.88	Slope	0.00
		Cobble content	0.99	Cobble content	0.97	Hard to reclaim (rock fragments)	0.00
180F:							
Salander	50	Poor		Poor		Poor	
		Wind erosion	0.00	Slope	0.00	Slope	0.00
		Too acid	0.08			Too acid	0.59
Necanicum	20	Fair		Poor		Poor	
		Too acid	0.08	Slope	0.00	Rock fragments	0.00
		Stone content	0.74	Stones	0.88	Slope	0.00
		Cobble content	0.99	Cobble content	0.97	Hard to reclaim (rock fragments)	0.00
Neskowin	15	Poor		Poor		Poor	
		Wind erosion	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.35	Slope	0.00	Rock fragments	0.00
		Too acid	0.50	Shrink-swell	0.87	Depth to bedrock	0.35
181E:							
Neskowin	60	Poor		Poor		Poor	
		Wind erosion	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.35	Slope	0.00	Rock fragments	0.00
		Too acid	0.50	Shrink-swell	0.87	Depth to bedrock	0.35
Salander	25	Poor		Poor		Poor	
		Wind erosion	0.00	Slope	0.00	Slope	0.00
		Too acid	0.08			Too acid	0.59
181F:							
Neskowin	35	Poor		Poor		Poor	
		Wind erosion	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.35	Slope	0.00	Rock fragments	0.00
		Too acid	0.50	Shrink-swell	0.87	Depth to bedrock	0.35
Rock outcrop	30	Not rated		Not rated		Not rated	

Table 19.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
181F:							
Necanicum	20	Fair		Poor		Poor	
		Too acid	0.08	Slope	0.00	Rock fragments	0.00
		Stone content	0.74	Stones	0.88	Slope	0.00
		Cobble content	0.99	Cobble content	0.97	Hard to reclaim (rock fragments)	0.00
182D:							
Neotsu	60	Poor		Poor		Poor	
		Wind erosion	0.00	Depth to bedrock	0.00	Slope	0.00
		Too acid	0.50	Slope	0.82	Too acid	0.59
		Depth to bedrock	0.71			Depth to bedrock	0.71
Salander	30	Poor		Fair		Poor	
		Wind erosion	0.00	Slope	0.82	Slope	0.00
		Too acid	0.08			Too acid	0.59
183D:							
Winema	55	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Too acid	0.12	Slope	0.82	Slope	0.00
		Low content of organic matter	0.50	Shrink-swell	0.96	Too acid	0.59
Fendall	30	Fair		Poor		Poor	
		Too clayey	0.08	Depth to bedrock	0.00	Slope	0.00
		Too acid	0.50	Low strength	0.00	Too clayey	0.06
		Depth to bedrock	0.84	Slope	0.82	Too acid	0.59
185F:							
Udorthents, steep	50	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.05	Slope	0.00	Depth to bedrock	0.05
		Too acid	0.50			Too acid	0.59
Rock outcrop	30	Not rated		Not rated		Not rated	
190D:							
Mulkey	85	Poor		Poor		Fair	
		Wind erosion	0.00	Depth to bedrock	0.00	Rock fragments	0.09
		Depth to bedrock	0.21	Cobble content	0.83	Depth to bedrock	0.21
		Too acid	0.50			Slope	0.37
191B:							
Siletz	40	Fair		Poor		Fair	
		Too acid	0.08	Low strength	0.00	Too acid	0.50
		Water erosion	0.99				
Euchre	35	Fair		Fair		Fair	
		Too acid	0.01	Wetness	0.02	Wetness	0.02
		Water erosion	0.90			Too acid	0.24
		Too clayey	0.92			Too clayey	0.87
192A:							
Yachats, occasional flooding	85	Fair		Good		Good	
		Too acid	0.92				

Table 19.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
303F:							
Ascar	50	Fair		Poor		Poor	
		Too acid	0.50	Depth to bedrock	0.00	Rock fragments	0.00
		Cobble content	0.54	Slope	0.00	Slope	0.00
		Droughty	0.83	Cobble content	0.00	Too acid	0.88
Rock outcrop	40	Not rated		Not rated		Not rated	
307F:							
Braun	45	Fair		Poor		Poor	
		Too acid	0.50	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.93	Slope	0.00	Depth to bedrock	0.93
		Droughty	0.99				
Scaponia	35	Fair		Poor		Poor	
		Too acid	0.50	Slope	0.00	Slope	0.00
		Water erosion	0.99	Depth to bedrock	0.16	Too acid	0.88
309D:							
Caterl	45	Fair		Fair		Poor	
		Too acid	0.50	Depth to bedrock	0.82	Hard to reclaim (rock fragments)	0.00
		Low content of organic matter	0.50	Slope	0.92	Rock fragments	0.00
						Slope	0.00
Laderly	35	Fair		Poor		Poor	
		Droughty	0.26	Depth to bedrock	0.00	Rock fragments	0.00
		Too acid	0.50	Cobble content	0.78	Slope	0.00
		Depth to bedrock	0.54	Slope	0.92	Depth to bedrock	0.54
309E:							
Caterl	40	Fair		Poor		Poor	
		Too acid	0.50	Slope	0.00	Hard to reclaim (rock fragments)	0.00
		Low content of organic matter	0.50	Depth to bedrock	0.82	Rock fragments	0.00
						Slope	0.00
Laderly	35	Fair		Poor		Poor	
		Droughty	0.26	Depth to bedrock	0.00	Rock fragments	0.00
		Too acid	0.50	Slope	0.00	Slope	0.00
		Depth to bedrock	0.54	Cobble content	0.78	Depth to bedrock	0.54
314A:							
Croquib	85	Fair		Poor		Poor	
		Too acid	0.50	Wetness	0.00	Wetness	0.00
		Water erosion	0.90			Hard to reclaim (rock fragments)	0.00
						Too acid	0.32
322F:							
Harslow	50	Fair		Poor		Poor	
		Droughty	0.22	Depth to bedrock	0.00	Rock fragments	0.00
		Too acid	0.50	Slope	0.00	Slope	0.00
		Depth to bedrock	0.97	Cobble content	0.86	Too acid	0.88
Kilchis	35	Poor		Poor		Poor	
		Depth to bedrock	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Droughty	0.00	Slope	0.00	Depth to bedrock	0.00
		Too acid	0.50	Cobble content	0.12	Slope	0.00

Table 19.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
327:							
Dystrudepts, steep	95	Fair		Poor		Poor	
		Too acid	0.50	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.93	Slope	0.00	Too acid	0.92
		Water erosion	0.99			Depth to bedrock	0.93
328:							
Dystrudepts	45	Fair		Good		Fair	
		Too acid	0.39			Slope	0.84
		Water erosion	0.99			Too acid	0.92
Humaquepts, isomesic	40	Poor		Poor		Poor	
		Too clayey	0.00	Wetness	0.00	Wetness	0.00
		Too acid	0.46	Low strength	0.00	Too clayey	0.00
		Water erosion	0.99	Shrink-swell	0.95	Too acid	0.95
329F:							
Kilchis	45	Poor		Poor		Poor	
		Depth to bedrock	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Droughty	0.00	Slope	0.00	Depth to bedrock	0.00
		Too acid	0.50	Cobble content	0.12	Slope	0.00
Rock outcrop	35	Not rated		Not rated		Not rated	
338F:							
Laderly	40	Fair		Poor		Poor	
		Droughty	0.26	Depth to bedrock	0.00	Rock fragments	0.00
		Too acid	0.50	Slope	0.00	Slope	0.00
		Depth to bedrock	0.54	Cobble content	0.78	Depth to bedrock	0.54
Rock outcrop	35	Not rated		Not rated		Not rated	
342D:							
McMille	85	Fair		Poor		Poor	
		Too acid	0.50	Low strength	0.00	Slope	0.00
		Low content of organic matter	0.50	Depth to bedrock	0.16	Too acid	0.88
				Slope	0.92		
		Water erosion	0.99				
345A:							
Mues	85	Poor		Poor		Fair	
		Wind erosion	0.00	Low strength	0.00	Wetness	0.62
		Too acid	0.50	Wetness	0.62	Too acid	0.88
		Water erosion	0.90	Shrink-swell	0.87		
346D:							
Murtip	75	Poor		Fair		Poor	
		Wind erosion	0.00	Depth to bedrock	0.58	Slope	0.00
		Too acid	0.08	Slope	0.92	Rock fragments	0.88
						Too acid	0.88
347E:							
Murtip	45	Poor		Poor		Poor	
		Wind erosion	0.00	Slope	0.00	Slope	0.00
		Too acid	0.08	Depth to bedrock	0.58	Rock fragments	0.88
						Too acid	0.88

Table 19.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
347E:							
Caterl	35	Fair		Poor		Poor	
		Too acid	0.50	Slope	0.00	Hard to reclaim (rock fragments)	0.00
		Low content of organic matter	0.50	Depth to bedrock	0.82	Rock fragments	0.00
						Slope	0.00
350E:							
Necanicum	45	Fair		Poor		Poor	
		Too acid	0.08	Slope	0.00	Rock fragments	0.00
		Stone content	0.74	Stones	0.88	Slope	0.00
		Cobble content	0.99	Cobble content	0.97	Hard to reclaim (rock fragments)	0.00
Ascar	30	Fair		Poor		Poor	
		Too acid	0.50	Depth to bedrock	0.00	Rock fragments	0.00
		Cobble content	0.54	Slope	0.00	Slope	0.00
		Droughty	0.83	Cobble content	0.00	Too acid	0.88
356D:							
Rinearson	85	Fair		Poor		Poor	
		Too acid	0.50	Low strength	0.00	Slope	0.00
		Low content of organic matter	0.88	Depth to bedrock	0.74	Too acid	0.88
				Slope	0.92		
357E:							
Scaponia	50	Fair		Poor		Poor	
		Too acid	0.50	Slope	0.00	Slope	0.00
		Water erosion	0.99	Depth to bedrock	0.16	Too acid	0.88
Braun	35	Fair		Poor		Poor	
		Too acid	0.50	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.93	Slope	0.00	Depth to bedrock	0.93
		Droughty	0.99				
358D:							
Skipanon	80	Fair		Fair		Poor	
		Too acid	0.08	Low strength	0.22	Rock fragments	0.00
		Low content of organic matter	0.50	Slope	0.92	Slope	0.00
				Shrink-swell	0.96	Too acid	0.59
358E:							
Skipanon	80	Fair		Poor		Poor	
		Too acid	0.08	Slope	0.00	Rock fragments	0.00
		Low content of organic matter	0.50	Low strength	0.22	Slope	0.00
				Shrink-swell	0.96	Too acid	0.59
359D:							
Svensen	85	Poor		Fair		Poor	
		Wind erosion	0.00	Slope	0.92	Slope	0.00
		Too acid	0.50			Too acid	0.59
359E:							
Svensen	85	Poor		Poor		Poor	
		Wind erosion	0.00	Slope	0.00	Slope	0.00
		Too acid	0.50			Too acid	0.59
363D:							
Tolke	80	Fair		Poor		Poor	
		Too acid	0.08	Low strength	0.00	Slope	0.00
				Slope	0.92	Too acid	0.76

Table 19.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
371C:							
Walluski------------	85	Fair		Poor		Fair	
		Too acid	0.50	Low strength	0.00	Slope	0.63
		Water erosion	0.99	Wetness	0.76	Wetness	0.76
				Shrink-swell	0.96		
403E:							
Astoria-------------	80	Fair		Poor		Poor	
		Too clayey	0.50	Slope	0.00	Slope	0.00
		Too acid	0.50	Low strength	0.00	Too clayey	0.39
		Low content of organic matter	0.50	Depth to bedrock	0.68	Too acid	0.59
420E:							
Hembre--------------	85	Fair		Poor		Poor	
		Too acid	0.50	Slope	0.00	Slope	0.00
				Depth to bedrock	0.07	Rock fragments	0.01
				Shrink-swell	0.87	Too acid	0.76
420F:							
Hembre--------------	85	Fair		Poor		Poor	
		Too acid	0.50	Slope	0.00	Slope	0.00
				Depth to bedrock	0.07	Rock fragments	0.01
				Shrink-swell	0.87	Too acid	0.76
425E:							
Klickitat-----------	80	Poor		Poor		Poor	
		Cobble content	0.00	Slope	0.00	Rock fragments	0.00
		Droughty	0.35	Cobble content	0.00	Slope	0.00
		Too acid	0.50	Depth to bedrock	0.04	Hard to reclaim (rock fragments)	0.00
433D:							
Melby---------------	80	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Too acid	0.08	Depth to bedrock	0.29	Slope	0.00
		Low content of organic matter	0.88	Slope	0.98	Too acid	0.88
433E:							
Melby---------------	80	Poor		Poor		Poor	
		Too clayey	0.00	Slope	0.00	Too clayey	0.00
		Too acid	0.08	Low strength	0.00	Slope	0.00
		Low content of organic matter	0.88	Depth to bedrock	0.29	Too acid	0.88
439E:							
Tolke---------------	70	Fair		Poor		Poor	
		Too acid	0.08	Slope	0.00	Slope	0.00
				Low strength	0.00	Too acid	0.76
501D:							
Apt-----------------	55	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Low content of organic matter	0.08	Shrink-swell	0.87	Slope	0.37
						Too acid	0.88
		Too acid	0.08				
McDuff--------------	30	Fair		Poor		Fair	
		Too acid	0.50	Depth to bedrock	0.00	Slope	0.37
		Too clayey	0.82	Low strength	0.00	Too acid	0.76
		Depth to bedrock	0.97	Shrink-swell	0.87	Too clayey	0.82

Table 19.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
501E:							
Apt	50	Poor		Poor		Poor	
		Too clayey	0.00	Slope	0.00	Too clayey	0.00
		Low content of organic matter	0.08	Low strength	0.00	Slope	0.00
		Too acid	0.08	Shrink-swell	0.87	Too acid	0.88
McDuff	30	Fair		Poor		Poor	
		Too acid	0.50	Depth to bedrock	0.00	Slope	0.00
		Too clayey	0.82	Slope	0.00	Too acid	0.76
		Depth to bedrock	0.97	Low strength	0.00	Too clayey	0.82
517A:							
Euchre	85	Fair		Fair		Fair	
		Too acid	0.01	Wetness	0.02	Wetness	0.02
		Water erosion	0.90			Too acid	0.24
		Too clayey	0.92			Too clayey	0.87
519D:							
Fendall	50	Fair		Poor		Poor	
		Too clayey	0.08	Depth to bedrock	0.00	Slope	0.00
		Too acid	0.50	Low strength	0.00	Too clayey	0.06
		Depth to bedrock	0.84	Slope	0.00	Too acid	0.59
Winema	30	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Slope	0.00
		Too acid	0.12	Slope	0.00	Too clayey	0.00
		Low content of organic matter	0.50	Shrink-swell	0.96	Too acid	0.59
532D:							
Klootchie	45	Fair		Poor		Poor	
		Too acid	0.08	Low strength	0.00	Slope	0.00
						Too acid	0.88
Neotsu	35	Poor		Poor		Poor	
		Wind erosion	0.00	Depth to bedrock	0.00	Slope	0.00
		Too acid	0.50			Too acid	0.59
		Depth to bedrock	0.71			Depth to bedrock	0.71
532E:							
Klootchie	50	Fair		Poor		Poor	
		Too acid	0.08	Slope	0.00	Slope	0.00
				Low strength	0.00	Too acid	0.88
Neotsu	30	Poor		Poor		Poor	
		Wind erosion	0.00	Depth to bedrock	0.00	Slope	0.00
		Too acid	0.50	Slope	0.00	Too acid	0.59
		Depth to bedrock	0.71			Depth to bedrock	0.71
543F:							
Neotsu	40	Poor		Poor		Poor	
		Wind erosion	0.00	Depth to bedrock	0.00	Slope	0.00
		Too acid	0.50	Slope	0.00	Too acid	0.59
		Depth to bedrock	0.71			Depth to bedrock	0.71
Necanicum	35	Fair		Poor		Poor	
		Too acid	0.08	Slope	0.00	Rock fragments	0.00
		Stone content	0.74	Stones	0.88	Slope	0.00
		Cobble content	0.99	Cobble content	0.97	Hard to reclaim (rock fragments)	0.00

Table 19.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
552F:							
Reedsport-----------	50	Fair		Poor		Poor	
		Too acid	0.50	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.84	Slope	0.00	Too acid	0.76
				Shrink-swell	0.89	Depth to bedrock	0.84
Tolovana------------	30	Poor		Poor		Poor	
		Wind erosion	0.00	Slope	0.00	Slope	0.00
		Too acid	0.05	Low strength	0.00	Too acid	0.76
		Low content of organic matter	0.88	Shrink-swell	0.87		
555D:							
Templeton-----------	55	Fair		Poor		Poor	
		Too acid	0.08	Low strength	0.00	Slope	0.00
		Too clayey	0.98	Slope	0.50	Too acid	0.50
		Water erosion	0.99			Too clayey	0.98
Fendall-------------	30	Fair		Poor		Poor	
		Too clayey	0.08	Depth to bedrock	0.00	Slope	0.00
		Too acid	0.50	Low strength	0.00	Too clayey	0.06
		Depth to bedrock	0.84	Slope	0.50	Too acid	0.59
556D:							
Tolovana------------	45	Poor		Poor		Poor	
		Wind erosion	0.00	Low strength	0.00	Slope	0.00
		Too acid	0.05	Slope	0.68	Too acid	0.76
		Low content of organic matter	0.88	Shrink-swell	0.87		
Reedsport-----------	35	Fair		Poor		Poor	
		Too acid	0.50	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.84	Slope	0.68	Too acid	0.76
				Shrink-swell	0.89	Depth to bedrock	0.84
556E:							
Tolovana------------	50	Poor		Poor		Poor	
		Wind erosion	0.00	Slope	0.00	Slope	0.00
		Too acid	0.05	Low strength	0.00	Too acid	0.76
		Low content of organic matter	0.88	Shrink-swell	0.87		
Reedsport-----------	35	Fair		Poor		Poor	
		Too acid	0.50	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.84	Slope	0.00	Too acid	0.76
				Shrink-swell	0.89	Depth to bedrock	0.84
611B:							
Dystrudepts, warm---	50	Fair		Poor		Fair	
		Too acid	0.05	Low strength	0.00	Wetness	0.38
		Too clayey	0.92	Wetness	0.38	Too acid	0.59
		Water erosion	0.99	Shrink-swell	0.77	Too clayey	0.92
Aquepts, warm-------	30	Poor		Poor		Poor	
		Too clayey	0.00	Wetness	0.00	Wetness	0.00
		Too acid	0.68	Low strength	0.00	Too clayey	0.00
		Water erosion	0.90	Shrink-swell	0.89		
Humaquepts, warm----	15	Poor		Poor		Poor	
		Too clayey	0.00	Wetness	0.00	Wetness	0.00
		Too acid	0.46	Low strength	0.00	Too clayey	0.00
		Water erosion	0.99	Shrink-swell	0.95	Too acid	0.95

Table 19.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
W:							
Water	100	Not rated		Not rated		Not rated	

Table 20.--Ponds and Embankments

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
1A:							
Brenner	85	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.53	Ponding	1.00	Slow refill	0.30
				Depth to saturated zone	1.00	Unstable excavation walls	0.10
				Piping	0.46		
2A:							
Fluvaquents	60	Very limited		Very limited		Very limited	
		Seepage	1.00	Ponding	1.00	Unstable excavation walls	1.00
				Depth to saturated zone	1.00		
				Piping	1.00		
Histosols	35	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Ponding	1.00	Unstable excavation walls	0.50
				Depth to saturated zone	1.00	Slow refill	0.30
				Seepage	1.00		
				Hard to pack	1.00		
3A:							
Coquille	85	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.03	Ponding	1.00	Slow refill	0.30
				Depth to saturated zone	1.00	Unstable excavation walls	0.10
				Piping	1.00		
4D:							
Ginsberg	85	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.03				
4E:							
Ginsberg	60	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.03				
Klistan	20	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.82	Depth to water	1.00
		Seepage	0.70	Thin layer	0.29		
		Depth to bedrock	0.29				
5E:							
Ferrelo	90	Very limited		Not limited		Very limited	
		Seepage	1.00			Depth to water	1.00
		Slope	1.00				
6D:							
Horseprairie	65	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	0.99				
Ferrelo	25	Very limited		Not limited		Very limited	
		Seepage	1.00			Depth to water	1.00
		Slope	1.00				

Table 20.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
7:							
Dune land	80	Not rated		Very limited		Very limited	
				Seepage	1.00	Depth to water	1.00
8A:							
Depoe	85	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Ponding	1.00	Unstable excavation walls	1.00
		Seepage	1.00	Depth to saturated zone	1.00		
				Thin layer	1.00		
				Piping	1.00		
9B:							
Waldport	85	Very limited		Not limited		Very limited	
		Seepage	1.00			Depth to water	1.00
9C:							
Waldport	85	Very limited		Not limited		Very limited	
		Seepage	1.00			Depth to water	1.00
		Slope	1.00				
9D:							
Waldport	85	Very limited		Not limited		Very limited	
		Seepage	1.00			Depth to water	1.00
		Slope	1.00				
9E:							
Waldport	85	Very limited		Not limited		Very limited	
		Seepage	1.00			Depth to water	1.00
		Slope	1.00				
10B:							
Waldport, thin surface	85	Very limited		Not limited		Very limited	
		Seepage	1.00			Depth to water	1.00
10C:							
Waldport, thin surface	90	Very limited		Not limited		Very limited	
		Seepage	1.00			Depth to water	1.00
		Slope	1.00				
10E:							
Waldport, thin surface	85	Very limited		Not limited		Very limited	
		Seepage	1.00			Depth to water	1.00
		Slope	1.00				
11B:							
Netarts	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.21	Depth to water	1.00
11C:							
Netarts	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.21	Depth to water	1.00
		Slope	1.00				
11D:							
Netarts	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.21	Depth to water	1.00
		Slope	1.00				

Table 20.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
11E:							
Netarts	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.21	Depth to water	1.00
		Slope	1.00				
12B:							
Yaquina	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Ponding	1.00	Unstable excavation walls	1.00
				Depth to saturated zone	1.00		
				Seepage	0.60		
13B:							
Waldport, thin surface	70	Very limited		Not limited		Very limited	
		Seepage	1.00			Depth to water	1.00
Heceta	25	Very limited		Very limited		Very limited	
		Seepage	1.00	Ponding	1.00	Unstable excavation walls	1.00
				Depth to saturated zone	1.00		
				Seepage	1.00		
14A:							
Heceta	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Ponding	1.00	Unstable excavation walls	1.00
				Depth to saturated zone	1.00		
				Seepage	1.00		
15B:							
Netarts	50	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.21	Depth to water	1.00
Yaquina	45	Very limited		Very limited		Very limited	
		Seepage	1.00	Ponding	1.00	Unstable excavation walls	1.00
				Depth to saturated zone	1.00		
				Seepage	0.60		
16F:							
Caterl	45	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.62	Depth to water	1.00
		Seepage	0.74	Thin layer	0.04		
		Depth to bedrock	0.04				
Laderly	25	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.92	Depth to water	1.00
		Slope	1.00	Thin layer	0.86		
		Depth to bedrock	0.86				
Murtip	20	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.11	Depth to water	1.00
		Seepage	0.70				
17B:							
Chitwood	50	Not limited		Very limited		Somewhat limited	
				Depth to saturated zone	1.00	Slow refill	0.95
						Unstable excavation walls	0.10
				Piping	0.62		

Table 20.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
17B:							
Hebo	35	Not limited		Very limited		Somewhat limited	
				Ponding	1.00	Slow refill	0.99
				Depth to saturated zone	1.00	Unstable excavation walls	0.10
18B:							
Chitwood	80	Not limited		Very limited		Somewhat limited	
				Depth to saturated zone	1.00	Slow refill	0.95
				Piping	0.62	Unstable excavation walls	0.10
18C:							
Chitwood	80	Very limited		Very limited		Somewhat limited	
		Slope	1.00	Depth to saturated zone	1.00	Slow refill	0.95
				Piping	0.62	Unstable excavation walls	0.10
19E:							
Klootchie	85	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.70				
20D:							
Klootchie	60	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.70				
Necanicum	25	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.55	Depth to water	1.00
		Seepage	0.70				
20E:							
Klootchie	55	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.70				
Necanicum	30	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.55	Depth to water	1.00
		Seepage	0.70				
21F:							
Necanicum	40	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.55	Depth to water	1.00
		Seepage	0.70				
Ascar	25	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.99	Depth to water	1.00
		Slope	1.00	Large stones	0.71		
		Depth to bedrock	0.52	Thin layer	0.52		
Klootchie	20	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.70				
22F:							
Ascar	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.99	Depth to water	1.00
		Slope	1.00	Large stones	0.71		
		Depth to bedrock	0.52	Thin layer	0.52		

Table 20.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
22F:							
Necanicum-----------	30	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.55	Depth to water	1.00
		Seepage	0.70				
Rock outcrop--------	20	Not rated		Not rated		Not rated	
23F:							
Rock outcrop--------	60	Not rated		Not rated		Not rated	
Ascar---------------	25	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.99	Depth to water	1.00
		Slope	1.00	Large stones	0.71		
		Depth to bedrock	0.52	Thin layer	0.52		
24C:							
Lebam---------------	85	Somewhat limited		Not limited		Very limited	
		Slope	0.92			Depth to water	1.00
		Seepage	0.03				
24D:							
Lebam---------------	85	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.03				
25E:							
Lebam---------------	60	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.03				
Necanicum-----------	20	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.55	Depth to water	1.00
		Seepage	0.70				
26F:							
Lebam---------------	55	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.03				
Necanicum-----------	25	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.55	Depth to water	1.00
		Seepage	0.70				
28D:							
Templeton-----------	60	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.41	Depth to water	1.00
		Seepage	0.70				
Necanicum-----------	25	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.55	Depth to water	1.00
		Seepage	0.70				
29D:							
Templeton-----------	50	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.41	Depth to water	1.00
		Seepage	0.70				
Klootchie-----------	35	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.70				

Table 20.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
29E:							
Templeton	45	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.41	Depth to water	1.00
		Seepage	0.70				
Klootchie	40	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.70				
30D:							
Templeton	85	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.41	Depth to water	1.00
		Seepage	0.70				
30E:							
Templeton	60	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.41	Depth to water	1.00
		Seepage	0.70				
Ecola	20	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.97	Depth to water	1.00
		Seepage	0.70	Thin layer	0.66		
		Depth to bedrock	0.03				
30F:							
Templeton	45	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.41	Depth to water	1.00
		Seepage	0.70				
Ecola	40	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.97	Depth to water	1.00
		Seepage	0.70	Thin layer	0.66		
		Depth to bedrock	0.03				
31D:							
Tolovana	45	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.97	Depth to water	1.00
		Seepage	0.70				
Templeton	40	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.41	Depth to water	1.00
		Seepage	0.70				
31E:							
Tolovana	50	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.97	Depth to water	1.00
		Seepage	0.70				
Templeton	25	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.41	Depth to water	1.00
		Seepage	0.70				
32D:							
Munsoncreek	65	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.18	Depth to water	1.00
		Seepage	0.03				
Flowerpot	20	Very limited		Very limited		Somewhat limited	
		Slope	1.00	Depth to saturated zone	1.00	Slow refill	0.97
		Seepage	0.03			Unstable excavation walls	0.10

Table 20.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
32E:							
Munsoncreek	65	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.18	Depth to water	1.00
		Seepage	0.03				
Templeton	20	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.41	Depth to water	1.00
		Seepage	0.70				
33D:							
Tolovana	85	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.97	Depth to water	1.00
		Seepage	0.70				
37D:							
Templeton	45	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.41	Depth to water	1.00
		Seepage	0.70				
Skipanon	30	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.76	Depth to water	1.00
		Seepage	0.81				
37E:							
Templeton	55	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.41	Depth to water	1.00
		Seepage	0.70				
Skipanon	30	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.76	Depth to water	1.00
		Seepage	0.81				
38E:							
Templeton	50	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.41	Depth to water	1.00
		Seepage	0.70				
Necanicum	35	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.55	Depth to water	1.00
		Seepage	0.70				
43F:							
Klistan	35	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.82	Depth to water	1.00
		Seepage	0.70	Thin layer	0.29		
		Depth to bedrock	0.29				
Harslow	30	Very limited		Very limited		Very limited	
		Slope	1.00	Seepage	1.00	Depth to water	1.00
		Seepage	0.70	Thin layer	0.61		
		Depth to bedrock	0.61				
Hemcross	25	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.70				
44E:							
Klistan	35	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.82	Depth to water	1.00
		Seepage	0.70	Thin layer	0.29		
		Depth to bedrock	0.29				

Table 20.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
44E:							
Harslow-------------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Seepage	1.00	Depth to water	1.00
		Seepage	0.70	Thin layer	0.61		
		Depth to bedrock	0.61				
Rock outcrop--------	20	Not rated		Not rated		Not rated	
44F:							
Harslow-------------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Seepage	1.00	Depth to water	1.00
		Seepage	0.70	Thin layer	0.61		
		Depth to bedrock	0.61				
Klistan-------------	30	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.82	Depth to water	1.00
		Seepage	0.70	Thin layer	0.29		
		Depth to bedrock	0.29				
Rock outcrop--------	20	Not rated		Not rated		Not rated	
45B:							
Hebo----------------	80	Not limited		Very limited		Somewhat limited	
				Ponding	1.00	Slow refill	0.99
				Depth to saturated zone	1.00	Unstable excavation walls	0.10
48D:							
Hemcross------------	60	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.70				
Klistan-------------	25	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.82	Depth to water	1.00
		Seepage	0.70	Thin layer	0.29		
		Depth to bedrock	0.29				
48E:							
Hemcross------------	50	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.70				
Klistan-------------	35	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.82	Depth to water	1.00
		Seepage	0.70	Thin layer	0.29		
		Depth to bedrock	0.29				
50B:							
Walluski------------	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.05	Piping	0.98	Slow refill	0.95
				Depth to saturated zone	0.95	Unstable excavation walls	0.10
						Depth to saturated zone	0.02

Table 20.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
51B:							
Walluski------------	45	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.05	Piping	0.98	Slow refill	0.95
				Depth to saturated zone	0.95	Unstable excavation walls	0.10
						Depth to saturated zone	0.02
Chitwood------------	40	Not limited		Very limited		Somewhat limited	
				Depth to saturated zone	1.00	Slow refill	0.95
				Piping	0.62	Unstable excavation walls	0.10
51C:							
Walluski------------	45	Very limited		Somewhat limited		Somewhat limited	
		Slope	1.00	Piping	0.98	Slow refill	0.95
		Seepage	0.05	Depth to saturated zone	0.95	Unstable excavation walls	0.10
						Depth to saturated zone	0.02
Chitwood------------	30	Very limited		Very limited		Somewhat limited	
		Slope	1.00	Depth to saturated zone	1.00	Slow refill	0.95
				Piping	0.62	Unstable excavation walls	0.10
54B:							
Knappa--------------	85	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Piping	1.00	Depth to water	1.00
55A:							
Histosols-----------	55	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Ponding	1.00	Unstable excavation walls	0.50
				Depth to saturated zone	1.00	Slow refill	0.30
				Seepage	1.00		
				Hard to pack	1.00		
Water---------------	45	Not rated		Not rated		Not rated	
56B:							
Wolfer--------------	80	Very limited		Not limited		Very limited	
		Seepage	1.00			Depth to water	1.00
56C:							
Wolfer--------------	85	Very limited		Not limited		Very limited	
		Seepage	1.00			Depth to water	1.00
		Slope	1.00				
57B:							
Condorbridge--------	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00
57C:							
Condorbridge--------	80	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00
		Slope	1.00				

Table 20.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
58C:							
Knappa	85	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	0.70				
59B:							
Chitwood	45	Not limited		Very limited		Somewhat limited	
				Depth to saturated zone	1.00	Slow refill	0.95
						Unstable excavation walls	0.10
				Piping	0.62		
Knappa	40	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Piping	1.00	Depth to water	1.00
60E:							
Caterl	35	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.62	Depth to water	1.00
		Seepage	0.74	Thin layer	0.04		
		Depth to bedrock	0.04				
Laderly	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.92	Depth to water	1.00
		Slope	1.00	Thin layer	0.86		
		Depth to bedrock	0.86				
Rock outcrop	25	Not rated		Not rated		Not rated	
60F:							
Laderly	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.92	Depth to water	1.00
		Slope	1.00	Thin layer	0.86		
		Depth to bedrock	0.86				
Caterl	30	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.62	Depth to water	1.00
		Seepage	0.74	Thin layer	0.04		
		Depth to bedrock	0.04				
Rock outcrop	20	Not rated		Not rated		Not rated	
61F:							
Laderly, south slopes	40	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.92	Depth to water	1.00
		Slope	1.00	Thin layer	0.86		
		Depth to bedrock	0.86				
Rock outcrop, south slopes	25	Not rated		Not rated		Not rated	
Caterl, south slopes	20	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.62	Depth to water	1.00
		Seepage	0.74	Thin layer	0.04		
		Depth to bedrock	0.04				
62F:							
Rock outcrop	60	Not rated		Not rated		Not rated	

Table 20.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
62F:							
Laderly	25	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.92	Depth to water	1.00
		Slope	1.00	Thin layer	0.86		
		Depth to bedrock	0.86				
70D:							
Murtip	45	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.11	Depth to water	1.00
		Seepage	0.70				
Caterl	30	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.62	Depth to water	1.00
		Seepage	0.74	Thin layer	0.04		
		Depth to bedrock	0.04				
Laderly	15	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.92	Depth to water	1.00
		Slope	1.00	Thin layer	0.86		
		Depth to bedrock	0.86				
70E:							
Murtip	40	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.11	Depth to water	1.00
		Seepage	0.70				
Caterl	30	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.62	Depth to water	1.00
		Seepage	0.74	Thin layer	0.04		
		Depth to bedrock	0.04				
Laderly	15	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.92	Depth to water	1.00
		Slope	1.00	Thin layer	0.86		
		Depth to bedrock	0.86				
71D:							
McMille	50	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.99	Depth to water	1.00
		Seepage	0.70	Thin layer	0.26		
Mutt	35	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	0.70	Thin layer	0.96		
		Depth to bedrock	0.26				
72D:							
Caterl, clayey	60	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Large stones	0.26	Depth to water	1.00
		Seepage	0.70	Thin layer	0.04		
		Depth to bedrock	0.04				
Murtip, clayey	20	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.11	Depth to water	1.00
		Seepage	0.70	Large stones	0.02		
73A:							
Nehalem, frequent flooding	75	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00

Table 20.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
74A:							
Nehalem, occasional flooding	80	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00
76A:							
Nestucca	90	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.53	Depth to saturated zone	1.00	Slow refill	0.47
				Piping	0.65	Unstable excavation walls	0.10
77A:							
Nestucca	55	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.53	Depth to saturated zone	1.00	Slow refill	0.47
				Piping	0.65	Unstable excavation walls	0.10
Brenner	40	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.53	Ponding	1.00	Slow refill	0.30
				Depth to saturated zone	1.00	Unstable excavation walls	0.10
				Piping	0.46		
80B:							
Quillamook	80	Somewhat limited		Not limited		Very limited	
		Seepage	0.70			Depth to water	1.00
81B:							
Quillamook, gravelly substratum	60	Very limited		Not limited		Very limited	
		Seepage	1.00			Depth to water	1.00
Quillamook	25	Somewhat limited		Not limited		Very limited	
		Seepage	0.70			Depth to water	1.00
81C:							
Quillamook, gravelly substratum	60	Very limited		Not limited		Very limited	
		Seepage	1.00			Depth to water	1.00
		Slope	1.00				
Quillamook	25	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.70				
89A:							
Udifluvents	40	Very limited		Not limited		Very limited	
		Seepage	1.00			Depth to water	1.00
Riverwash	30	Not rated		Not rated		Not rated	
Water	25	Not rated		Not rated		Not rated	
90A:							
Yachats	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00
91A:							
Gauldy	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.58	Depth to water	1.00

Table 20.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
92A:							
Yachats	45	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00
Gauldy	40	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.58	Depth to water	1.00
93B:							
Gauldy, occasional flooding	50	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.58	Depth to water	1.00
Gauldy, rare flooding	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.58	Depth to water	1.00
94B:							
Ginger	35	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Unstable excavation walls	1.00
				Piping	0.79		
Quillamook	30	Somewhat limited		Not limited		Very limited	
		Seepage	0.70			Depth to water	1.00
Urban land	30	Not rated		Not rated		Not rated	
95B:							
Urban land	55	Not rated		Not rated		Not rated	
Quillamook	30	Somewhat limited		Not limited		Very limited	
		Seepage	0.70			Depth to water	1.00
96B:							
Ginger	40	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Unstable excavation walls	1.00
				Piping	0.79		
Hebo	35	Not limited		Very limited		Somewhat limited	
				Ponding	1.00	Slow refill	0.99
				Depth to saturated zone	1.00	Unstable excavation walls	0.10
99:							
Beaches	95	Not rated		Not rated		Not rated	
100B:							
Urban land	65	Not rated		Not rated		Not rated	
Udorthents	25	Very limited		Very limited		Very limited	
		Seepage	1.00	Seepage	1.00	Depth to water	1.00
101B:							
Urban land, flooded	65	Not rated		Not rated		Not rated	
Udorthents, flooded	25	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Unstable excavation walls	1.00
				Seepage	1.00		

Table 20.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
102A:							
Fluvaquents, diked--	60	Very limited		Very limited		Very limited	
		Seepage	1.00	Ponding	1.00	Unstable excavation walls	1.00
				Depth to saturated zone	1.00		
				Piping	1.00		
Histosols, diked----	35	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Ponding	1.00	Unstable excavation walls	0.50
				Depth to saturated zone	1.00	Slow refill	0.30
				Seepage	1.00		
				Hard to pack	1.00		
103A:							
Coquille, diked-----	85	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.03	Ponding	1.00	Slow refill	0.30
				Depth to saturated zone	1.00	Unstable excavation walls	0.10
				Piping	1.00		
104A:							
Coquille, protected	50	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.03	Ponding	1.00	Slow refill	0.97
				Depth to saturated zone	1.00	Unstable excavation walls	0.10
				Piping	1.00		
Brenner, protected--	30	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.53	Ponding	1.00	Slow refill	0.47
				Depth to saturated zone	1.00	Unstable excavation walls	0.10
				Piping	0.46		
Nehalem, protected--	15	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00
110F:							
Waldport, thin surface------------	85	Very limited		Not limited		Very limited	
		Seepage	1.00			Depth to water	1.00
		Slope	1.00				
115A:							
Aquepts-------------	85	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.05	Ponding	1.00	Slow refill	0.95
				Depth to saturated zone	1.00	Unstable excavation walls	0.10
				Piping	0.50		
116A:							
Aquepts, warm-------	85	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.05	Ponding	1.00	Slow refill	0.30
				Depth to saturated zone	1.00	Unstable excavation walls	0.10
				Piping	0.58		

Table 20.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
118B:							
Oxyaquic Hapludands, flood plains	45	Very limited		Very limited		Very limited	
		Seepage	1.00	Seepage	1.00	Unstable excavation walls	1.00
				Depth to saturated zone	0.99		
Alic Hapludands, terraces	30	Very limited		Very limited		Very limited	
		Seepage	1.00	Seepage	1.00	Depth to water	1.00
		Slope	0.08				
119B:							
Oxyaquic Fulvudands, flood plains	45	Very limited		Very limited		Very limited	
		Seepage	1.00	Seepage	1.00	Unstable excavation walls	1.00
				Depth to saturated zone	0.98	Depth to saturated zone	0.01
Typic Fulvudands, terraces	30	Very limited		Not limited		Very limited	
		Seepage	1.00			Depth to water	1.00
		Slope	0.08				
120C:							
Alic Hapludands, terraces	60	Very limited		Very limited		Very limited	
		Seepage	1.00	Seepage	1.00	Depth to water	1.00
		Slope	0.68				
Alic Hapludands, fans	35	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.74	Depth to water	1.00
		Seepage	0.70				
121D:							
Fendall	50	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.74	Depth to water	1.00
		Seepage	0.05	Piping	0.73		
		Depth to bedrock	0.05				
Munsoncreek	30	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.18	Depth to water	1.00
		Seepage	0.03				
125B:							
Siletz	80	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00
126B:							
Siletz, warm	80	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00
127C:							
Condorbridge, warm	80	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00
		Slope	1.00				

Table 20.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
128B:							
Siletz	45	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00
Wolfer	40	Very limited		Not limited		Very limited	
		Seepage	1.00			Depth to water	1.00
144F:							
Harslow, south slopes	40	Very limited		Very limited		Very limited	
		Slope	1.00	Seepage	1.00	Depth to water	1.00
		Seepage	0.70	Thin layer	0.61		
		Depth to bedrock	0.61				
Rock outcrop, south slopes	30	Not rated		Not rated		Not rated	
Klistan, south slopes	20	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.82	Depth to water	1.00
		Seepage	0.70	Thin layer	0.29		
		Depth to bedrock	0.29				
145F:							
Rock outcrop	60	Not rated		Not rated		Not rated	
Harslow	25	Very limited		Very limited		Very limited	
		Slope	1.00	Seepage	1.00	Depth to water	1.00
		Seepage	0.70	Thin layer	0.61		
		Depth to bedrock	0.61				
156F:							
Sevencedars	55	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.70				
Newanna	30	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Large stones	0.66	Depth to water	1.00
		Seepage	0.70	Thin layer	0.56		
		Depth to bedrock	0.56				
157D:							
Caterl, till substratum	80	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.47	Depth to water	1.00
		Seepage	0.70	Large stones	0.26		
157E:							
Caterl, till substratum	80	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.47	Depth to water	1.00
		Seepage	0.70	Large stones	0.26		
157F:							
Caterl, till substratum	80	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.47	Depth to water	1.00
		Seepage	0.70	Large stones	0.26		

Table 20.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
158D:							
Sevencedars, till substratum	80	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.70				
158E:							
Sevencedars, till substratum	80	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.70				
158F:							
Sevencedars, till substratum	85	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.70				
159D:							
Sevencedars, clayey	85	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Large stones	0.87	Depth to water	1.00
		Seepage	0.70				
161D:							
Sevencedars	35	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.70				
Newanna	30	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Large stones	0.66	Depth to water	1.00
		Seepage	0.70	Thin layer	0.56		
		Depth to bedrock	0.56				
Woodspoint	25	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.13	Depth to water	1.00
		Seepage	0.70				
		Depth to bedrock	0.13				
161E:							
Sevencedars	50	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.70				
Newanna	20	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Large stones	0.66	Depth to water	1.00
		Seepage	0.70	Thin layer	0.56		
		Depth to bedrock	0.56				
Woodspoint	20	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.13	Depth to water	1.00
		Seepage	0.70				
		Depth to bedrock	0.13				
161F:							
Newanna	35	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Large stones	0.66	Depth to water	1.00
		Seepage	0.70	Thin layer	0.56		
		Depth to bedrock	0.56				

Table 20.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
161F:							
Sevencedars	35	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.70				
Rock outcrop	20	Not rated		Not rated		Not rated	
162D:							
Mosscreek	50	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.70				
Fawceter	40	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.70				
162E:							
Mosscreek	50	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.70				
Fawceter	45	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.70				
163F:							
Fawceter	40	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.70				
Killam	25	Very limited		Very limited		Very limited	
		Seepage	1.00	Seepage	1.00	Depth to water	1.00
		Slope	1.00	Thin layer	0.83		
		Depth to bedrock	0.83				
Mosscreek	20	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.70				
164F:							
Killam	35	Very limited		Very limited		Very limited	
		Seepage	1.00	Seepage	1.00	Depth to water	1.00
		Slope	1.00	Thin layer	0.83		
		Depth to bedrock	0.83				
Fawceter	30	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.70				
Rock outcrop	20	Not rated		Not rated		Not rated	
166F:							
Rock outcrop	60	Not rated		Not rated		Not rated	
Killam	25	Very limited		Very limited		Very limited	
		Seepage	1.00	Seepage	1.00	Depth to water	1.00
		Slope	1.00	Thin layer	0.83		
		Depth to bedrock	0.83				

Table 20.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
170A:							
Logsden	85	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.30	Piping	0.93	Depth to water	1.00
170B:							
Logsden	50	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.30	Piping	0.93	Depth to water	1.00
Nehalem, occasional flooding	40	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00
173B:							
Tillamook	45	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.70	Piping	0.99	Slow refill	0.95
				Depth to saturated zone	0.99	Unstable excavation walls	0.10
Ginger	40	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Unstable excavation walls	1.00
				Piping	0.79		
173C:							
Tillamook	45	Very limited		Somewhat limited		Somewhat limited	
		Slope	1.00	Piping	0.99	Slow refill	0.95
		Seepage	0.70	Depth to saturated zone	0.99	Unstable excavation walls	0.10
Ginger	40	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Unstable excavation walls	1.00
		Slope	1.00				
				Piping	0.79		
174C:							
Typic Fulvudands, terraces	60	Very limited		Not limited		Very limited	
		Seepage	1.00			Depth to water	1.00
		Slope	0.68				
Typic Fulvudands, fans	35	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.47	Depth to water	1.00
		Seepage	0.70				
175D:							
Astoria	80	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.83	Depth to water	1.00
		Seepage	0.05	Thin layer	0.08		
176D:							
Preacher	65	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.92	Depth to water	1.00
		Seepage	0.99	Thin layer	0.06		
Bohannon	20	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	0.70	Thin layer	0.56		
		Depth to bedrock	0.02				

Table 20.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
176E:							
Preacher	55	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.92	Depth to water	1.00
		Seepage	0.99	Thin layer	0.06		
Bohannon	30	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	0.70	Thin layer	0.56		
		Depth to bedrock	0.02				
177B:							
Dystrudepts	65	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.03	Depth to saturated zone	1.00	Slow refill	0.99
						Unstable excavation walls	0.10
Aquepts	30	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.11	Ponding	1.00	Slow refill	0.30
				Depth to saturated zone	1.00	Unstable excavation walls	0.10
178B:							
Fluventic Humic Dystrudepts	45	Very limited		Very limited		Somewhat limited	
		Seepage	1.00	Piping	1.00	Depth to saturated zone	0.21
				Depth to saturated zone	0.53	Unstable excavation walls	0.10
Dystrudepts	25	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00
Aquepts	20	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.05	Ponding	1.00	Slow refill	0.30
				Depth to saturated zone	1.00	Unstable excavation walls	0.10
				Piping	0.73		
180D:							
Salander	85	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.70				
180E:							
Salander	60	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.70				
Necanicum	25	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.55	Depth to water	1.00
		Seepage	0.70				
180F:							
Salander	50	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.70				
Necanicum	20	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.55	Depth to water	1.00
		Seepage	0.70				

Table 20.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
180F:							
Neskowin	15	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.91	Depth to water	1.00
		Depth to bedrock	0.91				
		Seepage	0.53				
181E:							
Neskowin	60	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.91	Depth to water	1.00
		Depth to bedrock	0.91				
		Seepage	0.53				
Salander	25	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.70				
181F:							
Neskowin	35	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.91	Depth to water	1.00
		Depth to bedrock	0.91				
		Seepage	0.53				
Rock outcrop	30	Not rated		Not rated		Not rated	
Necanicum	20	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.55	Depth to water	1.00
		Seepage	0.70				
182D:							
Neotsu	60	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.81	Depth to water	1.00
		Seepage	0.70				
		Depth to bedrock	0.08				
Salander	30	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.70				
183D:							
Winema	55	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.54	Depth to water	1.00
		Seepage	0.70				
Fendall	30	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.74	Depth to water	1.00
		Seepage	0.05	Piping	0.73		
		Depth to bedrock	0.05				
185F:							
Udorthents, steep	50	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.99	Depth to water	1.00
		Slope	1.00				
		Depth to bedrock	0.34				
Rock outcrop	30	Not rated		Not rated		Not rated	
190D:							
Mulkey	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.95	Depth to water	1.00
		Slope	1.00				
		Depth to bedrock	0.95				

Table 20.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
191B:							
Siletz	40	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00
Euchre	35	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Unstable excavation walls	1.00
				Piping	1.00		
192A:							
Yachats, occasional flooding	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00
303F:							
Ascar	50	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.99	Depth to water	1.00
		Slope	1.00	Large stones	0.71		
		Depth to bedrock	0.52	Thin layer	0.52		
Rock outcrop	40	Not rated		Not rated		Not rated	
307F:							
Braun	45	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	0.70	Thin layer	0.66		
		Depth to bedrock	0.03				
Scaponia	35	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	0.70	Thin layer	0.26		
309D:							
Caterl	45	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.62	Depth to water	1.00
		Seepage	0.74	Thin layer	0.04		
		Depth to bedrock	0.04				
Laderly	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.92	Depth to water	1.00
		Slope	1.00	Thin layer	0.86		
		Depth to bedrock	0.86				
309E:							
Caterl	40	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.62	Depth to water	1.00
		Seepage	0.74	Thin layer	0.04		
		Depth to bedrock	0.04				
Laderly	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.92	Depth to water	1.00
		Slope	1.00	Thin layer	0.86		
		Depth to bedrock	0.86				
314A:							
Croquib	85	Somewhat limited		Very limited		Very limited	
		Seepage	0.05	Ponding	1.00	Unstable excavation walls	1.00
				Depth to saturated zone	1.00	Slow refill	0.30
				Piping	1.00		

Table 20.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
322F:							
Harslow	50	Very limited		Very limited		Very limited	
		Slope	1.00	Seepage	1.00	Depth to water	1.00
		Seepage	0.70	Thin layer	0.61		
		Depth to bedrock	0.61				
Kilchis	35	Very limited		Very limited		Very limited	
		Slope	1.00	Thin layer	1.00	Depth to water	1.00
		Depth to bedrock	1.00	Seepage	0.50		
				Large stones	0.09		
327:							
Dystrudepts, steep	95	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	1.00	Thin layer	0.66		
		Depth to bedrock	0.03				
328:							
Dystrudepts	45	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00
		Slope	1.00				
Humaquepts, isomesic	40	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.05	Ponding	1.00	Slow refill	0.30
				Depth to saturated zone	1.00	Unstable excavation walls	0.10
				Piping	0.22		
329F:							
Kilchis	45	Very limited		Very limited		Very limited	
		Slope	1.00	Thin layer	1.00	Depth to water	1.00
		Depth to bedrock	1.00	Seepage	0.50		
				Large stones	0.09		
Rock outcrop	35	Not rated		Not rated		Not rated	
338F:							
Laderly	40	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.92	Depth to water	1.00
		Slope	1.00	Thin layer	0.86		
		Depth to bedrock	0.86				
Rock outcrop	35	Not rated		Not rated		Not rated	
342D:							
McMille	85	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.99	Depth to water	1.00
		Seepage	0.70	Thin layer	0.26		
345A:							
Mues	85	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Piping	1.00	Unstable excavation walls	1.00
				Depth to saturated zone	0.99	Slow refill	0.30
				Thin layer	0.66		
346D:							
Murtip	75	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.11	Depth to water	1.00
		Seepage	0.70				

Table 20.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
347E:							
Murtip	45	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.11	Depth to water	1.00
		Seepage	0.70				
Caterl	35	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.62	Depth to water	1.00
		Seepage	0.74	Thin layer	0.04		
		Depth to bedrock	0.04				
350E:							
Necanicum	45	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.55	Depth to water	1.00
		Seepage	0.70				
Ascar	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.99	Depth to water	1.00
		Slope	1.00	Large stones	0.71		
		Depth to bedrock	0.52	Thin layer	0.52		
356D:							
Rinearson	85	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.97	Depth to water	1.00
		Seepage	0.70	Thin layer	0.06		
357E:							
Scaponia	50	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	0.70	Thin layer	0.26		
Braun	35	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	0.70	Thin layer	0.66		
		Depth to bedrock	0.03				
358D:							
Skipanon	80	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.76	Depth to water	1.00
		Seepage	0.81				
358E:							
Skipanon	80	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.76	Depth to water	1.00
		Seepage	0.81				
359D:							
Svensen	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00
		Slope	1.00				
359E:							
Svensen	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00
		Slope	1.00				
363D:							
Tolke	80	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.70				

Table 20.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
371C:							
Walluski	85	Very limited		Somewhat limited		Somewhat limited	
		Slope	1.00	Piping	0.98	Slow refill	0.95
		Seepage	0.05	Depth to saturated zone	0.95	Unstable excavation walls	0.10
						Depth to saturated zone	0.02
403E:							
Astoria	80	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.83	Depth to water	1.00
		Seepage	0.05	Thin layer	0.08		
420E:							
Hembre	85	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	0.70	Thin layer	0.34		
		Depth to bedrock	0.33				
420F:							
Hembre	85	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	0.70	Thin layer	0.34		
		Depth to bedrock	0.33				
425E:							
Klickitat	80	Very limited		Very limited		Very limited	
		Slope	1.00	Large stones	1.00	Depth to water	1.00
		Seepage	0.70	Thin layer	0.37		
		Depth to bedrock	0.37	Seepage	0.15		
433D:							
Melby	80	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.90	Depth to water	1.00
		Seepage	0.70	Thin layer	0.19		
433E:							
Melby	80	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.90	Depth to water	1.00
		Seepage	0.70	Thin layer	0.19		
439E:							
Tolke	70	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.70				
501D:							
Apt	55	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.05				
McDuff	30	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.61	Depth to water	1.00
		Seepage	0.05	Piping	0.22		
		Depth to bedrock	0.02				
501E:							
Apt	50	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.05				

Table 20.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
501E:							
McDuff	30	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.61	Depth to water	1.00
		Seepage	0.05	Piping	0.22		
		Depth to bedrock	0.02				
517A:							
Euchre	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Unstable excavation walls	1.00
				Piping	1.00		
519D:							
Fendall	50	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.97	Depth to water	1.00
		Seepage	0.05	Thin layer	0.74		
		Depth to bedrock	0.05				
Winema	30	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.54	Depth to water	1.00
		Seepage	0.70				
532D:							
Klootchie	45	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.70				
Neotsu	35	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.81	Depth to water	1.00
		Seepage	0.70				
		Depth to bedrock	0.08				
532E:							
Klootchie	50	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.70				
Neotsu	30	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.81	Depth to water	1.00
		Seepage	0.70				
		Depth to bedrock	0.08				
543F:							
Neotsu	40	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.81	Depth to water	1.00
		Seepage	0.70				
		Depth to bedrock	0.08				
Necanicum	35	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.55	Depth to water	1.00
		Seepage	0.70				
552F:							
Reedsport	50	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	0.70	Thin layer	0.74		
		Depth to bedrock	0.05				
Tolovana	30	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.97	Depth to water	1.00
		Seepage	0.70				

Table 20.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
555D:							
Templeton	55	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.41	Depth to water	1.00
		Seepage	0.70				
Fendall	30	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.97	Depth to water	1.00
		Seepage	0.05	Thin layer	0.74		
		Depth to bedrock	0.05				
556D:							
Tolovana	45	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.97	Depth to water	1.00
		Seepage	0.70				
Reedsport	35	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	0.70	Thin layer	0.74		
		Depth to bedrock	0.05				
556E:							
Tolovana	50	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.97	Depth to water	1.00
		Seepage	0.70				
Reedsport	35	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	0.70	Thin layer	0.74		
		Depth to bedrock	0.05				
611B:							
Dystrudepts, warm	50	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.03	Depth to saturated zone	1.00	Slow refill	0.99
						Unstable excavation walls	0.10
Aquepts, warm	30	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.11	Ponding	1.00	Slow refill	0.30
				Depth to saturated zone	1.00	Unstable excavation walls	0.10
Humaquepts, warm	15	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.05	Ponding	1.00	Slow refill	0.30
				Depth to saturated zone	1.00	Unstable excavation walls	0.10
				Piping	0.22		
W:							
Water	100	Not rated		Not rated		Not rated	

Table 21.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
1A:					
Brenner	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	1.00
		Slow water movement	0.81	Slow water movement	0.67
		Leaching	0.70	Too acid	0.42
		Too acid	0.11		
2A:					
Fluvaquents	60	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	1.00
		Leaching	0.70		
Histosols	35	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	1.00
		Leaching	0.50	Slow water movement	0.22
		Slow water movement	0.30	Too acid	0.07
3A:					
Coquille	85	Very limited		Very limited	
		Slow water movement	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Slow water movement	1.00
		Leaching	0.50	Too acid	0.42
4D:					
Ginsberg	85	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00
		Slow water movement	0.50	Slow water movement	0.37
4E:					
Ginsberg	60	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
		Slow water movement	0.50	Slow water movement	0.37

Table 21.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
4E:					
Klistan	20	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
		Droughty	0.20	Droughty	0.20
5E:					
Ferrelo	90	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
6D:					
Horseprairie	65	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Too acid	0.78	Too acid	1.00
		Slope	0.63	Slope	0.63
Ferrelo	25	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Too acid	0.78	Too acid	1.00
		Slope	0.63	Slope	0.63
7:					
Dune land	80	Not rated		Not rated	
8A:					
Depoe	85	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Too acid	0.78	Too acid	1.00
9B:					
Waldport	85	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Droughty	1.00	Droughty	1.00
		Leaching	0.45	Too acid	0.85
		Too acid	0.27		
9C:					
Waldport	85	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Droughty	1.00	Droughty	1.00
		Leaching	0.45	Too acid	0.85
		Too acid	0.27		
9D:					
Waldport	85	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Droughty	1.00	Droughty	1.00
		Slope	1.00	Slope	1.00
		Leaching	0.45	Too acid	0.85
		Too acid	0.27		

Table 21.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
9E:					
Waldport------------	85	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Droughty	1.00
		Droughty	1.00	Slope	1.00
		Leaching	0.45	Too acid	0.85
		Too acid	0.27		
10B:					
Waldport, thin surface------------	85	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Droughty	1.00	Droughty	1.00
		Too acid	0.78	Too acid	1.00
		Leaching	0.45		
10C:					
Waldport, thin surface------------	90	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Droughty	1.00	Droughty	1.00
		Too acid	0.78	Too acid	1.00
		Leaching	0.45	Slope	0.04
		Slope	0.04		
10E:					
Waldport, thin surface------------	85	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Droughty	1.00	Droughty	1.00
		Too acid	0.78	Too acid	1.00
		Leaching	0.45		
11B:					
Netarts-------------	85	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Too acid	0.78	Too acid	1.00
		Leaching	0.45	Droughty	0.29
		Droughty	0.29		
11C:					
Netarts-------------	90	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Too acid	0.78	Too acid	1.00
		Leaching	0.45	Droughty	0.29
		Droughty	0.29		
11D:					
Netarts-------------	90	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00
		Leaching	0.45	Droughty	0.29
		Droughty	0.29		

Table 21.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
11E:					
Netarts	90	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
		Leaching	0.45	Droughty	0.29
		Droughty	0.29		
12B:					
Yaquina	85	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Leaching	0.90	Too acid	1.00
		Too acid	0.78	Droughty	0.55
		Droughty	0.55		
13B:					
Waldport, thin surface	70	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Droughty	1.00	Droughty	1.00
		Too acid	0.78	Too acid	1.00
		Leaching	0.45		
Heceta	25	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Leaching	0.90	Too acid	1.00
		Too acid	0.78	Droughty	0.35
		Droughty	0.35		
14A:					
Heceta	85	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Leaching	0.90	Too acid	1.00
		Too acid	0.78	Droughty	0.35
		Droughty	0.35		
15B:					
Netarts	50	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Too acid	0.78	Too acid	1.00
		Leaching	0.45	Droughty	0.29
		Droughty	0.29		
Yaquina	45	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Leaching	0.90	Too acid	1.00
		Too acid	0.78	Droughty	0.55
		Droughty	0.55		

Table 21.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
16F:					
Caterl	45	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
Laderly	25	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
		Droughty	0.74	Droughty	0.74
		Depth to bedrock	0.46	Depth to bedrock	0.46
Murtip	20	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
17B:					
Chitwood	50	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slow water movement	1.00
		Leaching	0.50	Too acid	0.96
		Too acid	0.37		
Hebo	35	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.68	Too acid	1.00
		Runoff	0.40		
18B:					
Chitwood	80	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slow water movement	1.00
		Leaching	0.50	Too acid	0.96
		Too acid	0.37		
18C:					
Chitwood	80	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slow water movement	1.00
		Leaching	0.50	Too acid	0.96
		Too acid	0.37	Slope	0.37
		Slope	0.37		
19E:					
Klootchie	85	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00

Table 21.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
20D:					
Klootchie-----------	60	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00
Necanicum-----------	25	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00
20E:					
Klootchie-----------	55	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
Necanicum-----------	30	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
21F:					
Necanicum-----------	40	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
Ascar---------------	25	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
		Droughty	0.17	Droughty	0.17
Klootchie-----------	20	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
22F:					
Ascar---------------	35	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
		Droughty	0.17	Droughty	0.17
Necanicum-----------	30	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
Rock outcrop--------	20	Not rated		Not rated	
23F:					
Rock outcrop--------	60	Not rated		Not rated	

Table 21.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
23F:					
Ascar	25	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
		Droughty	0.17	Droughty	0.17
24C:					
Lebam	85	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Too acid	0.78	Too acid	1.00
		Slow water movement	0.50	Slow water movement	0.37
24D:					
Lebam	85	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00
		Slow water movement	0.50	Slow water movement	0.37
25E:					
Lebam	60	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
		Slow water movement	0.50	Slow water movement	0.37
Necanicum	20	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
26F:					
Lebam	55	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
		Slow water movement	0.50	Slow water movement	0.37
Necanicum	25	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
28D:					
Templeton	60	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00
Necanicum	25	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00

Table 21.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
29D:					
Templeton	50	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00
Klootchie	35	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00
29E:					
Templeton	45	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
Klootchie	40	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
30D:					
Templeton	85	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00
30E:					
Templeton	60	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
Ecola	20	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
		Depth to bedrock	0.06	Depth to bedrock	0.06
30F:					
Templeton	45	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
Ecola	40	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
		Depth to bedrock	0.06	Depth to bedrock	0.06
31D:					
Tolovana	45	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00
		Slow water movement	0.50	Slow water movement	0.37

Table 21.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
31D:					
Templeton-----------	40	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00
31E:					
Tolovana------------	50	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
		Slow water movement	0.50	Slow water movement	0.37
Templeton-----------	25	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
32D:					
Munsoncreek---------	65	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00
		Slow water movement	0.50	Slow water movement	0.37
Flowerpot-----------	20	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	1.00	Too acid	1.00
		Slow water movement	0.81	Slope	1.00
		Too acid	0.78	Slow water movement	0.67
32E:					
Munsoncreek---------	65	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
		Slow water movement	0.50	Slow water movement	0.37
Templeton-----------	20	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
33D:					
Tolovana------------	85	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00
		Slow water movement	0.50	Slow water movement	0.37

Table 21.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
37D:					
Templeton	45	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00
Skipanon	30	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00
37E:					
Templeton	55	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
Skipanon	30	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
38E:					
Templeton	50	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
Necanicum	35	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
43F:					
Klistan	35	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
		Droughty	0.20	Droughty	0.20
Harslow	30	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Droughty	0.78	Too acid	1.00
		Too acid	0.78	Droughty	0.78
		Depth to bedrock	0.03	Depth to bedrock	0.03
Hemcross	25	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
44E:					
Klistan	35	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
		Droughty	0.20	Droughty	0.20

Table 21.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
44E:					
Harslow	30	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Droughty	0.78	Too acid	1.00
		Too acid	0.78	Droughty	0.78
		Depth to bedrock	0.03	Depth to bedrock	0.03
Rock outcrop	20	Not rated		Not rated	
44F:					
Harslow	35	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Droughty	0.78	Too acid	1.00
		Too acid	0.78	Droughty	0.78
		Depth to bedrock	0.03	Depth to bedrock	0.03
Klistan	30	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
		Droughty	0.20	Droughty	0.20
Rock outcrop	20	Not rated		Not rated	
45B:					
Hebo	80	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.68	Too acid	1.00
		Runoff	0.40		
48D:					
Hemcross	60	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00
Klistan	25	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00
		Droughty	0.20	Droughty	0.20
48E:					
Hemcross	50	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
Klistan	35	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
		Droughty	0.20	Droughty	0.20

Table 21.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
50B:					
Walluski	80	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Depth to saturated zone	0.95	Too acid	1.00
		Too acid	0.78	Depth to saturated zone	0.95
		Slow water movement	0.30	Slow water movement	0.22
51B:					
Walluski	45	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Depth to saturated zone	0.95	Too acid	1.00
		Too acid	0.78	Depth to saturated zone	0.95
		Slow water movement	0.30	Slow water movement	0.22
Chitwood	40	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slow water movement	1.00
		Leaching	0.50	Too acid	0.96
		Too acid	0.37		
51C:					
Walluski	45	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Depth to saturated zone	0.95	Too acid	1.00
		Too acid	0.78	Depth to saturated zone	0.95
		Slow water movement	0.30	Slow water movement	0.22
		Slope	0.04	Slope	0.04
Chitwood	30	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slow water movement	1.00
		Leaching	0.50	Too acid	0.96
		Too acid	0.37	Slope	0.04
		Slope	0.04		
54B:					
Knappa	85	Somewhat limited		Very limited	
		Too acid	0.73	Too acid	1.00
55A:					
Histosols	55	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	1.00
		Leaching	0.50	Slow water movement	0.22
		Slow water movement	0.30	Too acid	0.07

Table 21.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
55A:					
Water	45	Not rated		Not rated	
56B:					
Wolfer	80	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Too acid	0.11	Too acid	0.42
		Strongly contrasting textural stratification	0.10	Strongly contrasting textural stratification	0.10
56C:					
Wolfer	85	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Too acid	0.11	Too acid	0.42
		Strongly contrasting textural stratification	0.10	Strongly contrasting textural stratification	0.10
		Slope	0.04	Slope	0.04
57B:					
Condorbridge	85	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slow water movement	0.50	Too acid	0.85
		Too acid	0.27	Slow water movement	0.37
57C:					
Condorbridge	80	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slow water movement	0.50	Too acid	0.85
		Too acid	0.27	Slow water movement	0.37
58C:					
Knappa	85	Somewhat limited		Very limited	
		Too acid	0.73	Too acid	1.00
		Slope	0.04	Slope	0.04
59B:					
Chitwood	45	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slow water movement	1.00
		Leaching	0.50	Too acid	0.96
		Too acid	0.37		
Knappa	40	Somewhat limited		Very limited	
		Too acid	0.73	Too acid	1.00
60E:					
Caterl	35	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00

Table 21.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
60E:					
Laderly	30	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
		Droughty	0.74	Droughty	0.74
		Depth to bedrock	0.46	Depth to bedrock	0.46
Rock outcrop	25	Not rated		Not rated	
60F:					
Laderly	35	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
		Droughty	0.74	Droughty	0.74
		Depth to bedrock	0.46	Depth to bedrock	0.46
Caterl	30	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
Rock outcrop	20	Not rated		Not rated	
61F:					
Laderly, south slopes	40	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
		Droughty	0.74	Droughty	0.74
		Depth to bedrock	0.46	Depth to bedrock	0.46
Rock outcrop, south slopes	25	Not rated		Not rated	
Caterl, south slopes	20	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
62F:					
Rock outcrop	60	Not rated		Not rated	
Laderly	25	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
		Droughty	0.74	Droughty	0.74
		Depth to bedrock	0.46	Depth to bedrock	0.46
70D:					
Murtip	45	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00

Table 21.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
70D:					
Caterl	30	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00
Laderly	15	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00
		Droughty	0.74	Droughty	0.74
		Depth to bedrock	0.46	Depth to bedrock	0.46
70E:					
Murtip	40	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
Caterl	30	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
Laderly	15	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
		Droughty	0.74	Droughty	0.74
		Depth to bedrock	0.46	Depth to bedrock	0.46
71D:					
McMille	50	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00
Mutt	35	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Depth to bedrock	0.84	Slope	1.00
		Too acid	0.78	Depth to bedrock	0.84
72D:					
Caterl, clayey	60	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00
		Slow water movement	0.30	Slow water movement	0.22
Murtip, clayey	20	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00
		Slow water movement	0.30	Slow water movement	0.22

Table 21.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
73A:					
Nehalem, frequent flooding	75	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Too acid	0.11	Too acid	0.42
74A:					
Nehalem, occasional flooding	80	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Too acid	0.11	Too acid	0.42
76A:					
Nestucca	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	1.00
		Slow water movement	0.81	Too acid	0.96
		Leaching	0.70	Slow water movement	0.67
		Too acid	0.37		
77A:					
Nestucca	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	1.00
		Slow water movement	0.81	Too acid	0.96
		Leaching	0.70	Slow water movement	0.67
		Too acid	0.37		
Brenner	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	1.00
		Slow water movement	0.81	Slow water movement	0.67
		Leaching	0.70	Too acid	0.42
		Too acid	0.11		
80B:					
Quillamook	80	Somewhat limited		Somewhat limited	
		Too acid	0.18	Too acid	0.67
81B:					
Quillamook, gravelly substratum	60	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Too acid	0.18	Too acid	0.67
Quillamook	25	Somewhat limited		Somewhat limited	
		Too acid	0.18	Too acid	0.67
81C:					
Quillamook, gravelly substratum	60	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Too acid	0.18	Too acid	0.67
		Slope	0.04	Slope	0.04

Table 21.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
81C:					
Quillamook	25	Somewhat limited		Somewhat limited	
		Too acid	0.18	Too acid	0.67
		Slope	0.04	Slope	0.04
89A:					
Udifluvents	40	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Leaching	0.45	Too acid	0.96
		Too acid	0.37		
Riverwash	30	Not rated		Not rated	
Water	25	Not rated		Not rated	
90A:					
Yachats	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Too acid	0.05	Too acid	0.21
91A:					
Gauldy	85	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Flooding	1.00	Flooding	1.00
		Strongly contrasting textural stratification	0.79	Too acid	0.96
		Leaching	0.45	Strongly contrasting textural stratification	0.79
		Too acid	0.37	Droughty	0.02
92A:					
Yachats	45	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Too acid	0.05	Too acid	0.21
Gauldy	40	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Flooding	1.00	Flooding	1.00
		Strongly contrasting textural stratification	0.79	Too acid	0.96
		Leaching	0.45	Strongly contrasting textural stratification	0.79
		Too acid	0.37	Droughty	0.02
93B:					
Gauldy, occasional flooding	50	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Strongly contrasting textural stratification	0.79	Flooding	1.00
		Flooding	0.60	Too acid	0.96
		Leaching	0.45	Strongly contrasting textural stratification	0.79
		Too acid	0.37	Droughty	0.02

Table 21.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
93B:					
Gauldy, rare flooding	35	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Strongly contrasting textural stratification	0.79	Too acid	0.96
		Leaching	0.45	Strongly contrasting textural stratification	0.79
		Too acid	0.37	Flooding	0.40
		Droughty	0.02	Droughty	0.02
94B:					
Ginger	35	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slow water movement	1.00
		Leaching	0.50	Too acid	0.85
		Too acid	0.27		
Quillamook	30	Somewhat limited		Somewhat limited	
		Too acid	0.18	Too acid	0.67
Urban land	30	Not rated		Not rated	
95B:					
Urban land	55	Not rated		Not rated	
Quillamook	30	Somewhat limited		Somewhat limited	
		Too acid	0.18	Too acid	0.67
96B:					
Ginger	40	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slow water movement	1.00
		Leaching	0.50	Too acid	0.85
		Too acid	0.27		
Hebo	35	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.68	Too acid	1.00
		Runoff	0.40		
99:					
Beaches	95	Not rated		Not rated	
100B:					
Urban land	65	Not rated		Not rated	
Udorthents	25	Somewhat limited		Somewhat limited	
		Droughty	0.90	Too acid	0.96
		Leaching	0.45	Droughty	0.90
		Too acid	0.37		

Table 21.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
101B:					
Urban land, flooded	65	Not rated		Not rated	
Udorthents, flooded	25	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Droughty	0.90	Flooding	1.00
		Leaching	0.90	Too acid	0.96
		Flooding	0.60	Droughty	0.90
		Too acid	0.37		
102A:					
Fluvaquents, diked	60	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	1.00
		Leaching	0.70		
Histosols, diked	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	1.00
		Leaching	0.50	Slow water movement	0.22
		Slow water movement	0.30	Too acid	0.07
		Too acid	0.02		
103A:					
Coquille, diked	85	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Flooding	1.00
				Slow water movement	1.00
		Flooding	1.00		
		Too acid	0.78	Too acid	1.00
		Leaching	0.50		
104A:					
Coquille, protected	50	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Too acid	1.00
				Slow water movement	1.00
		Too acid	0.73		
		Leaching	0.50	Flooding	0.40
Brenner, protected	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.82	Too acid	1.00
		Slow water movement	0.81	Slow water movement	0.67
		Leaching	0.70	Flooding	0.40
Nehalem, protected	15	Somewhat limited		Very limited	
		Too acid	0.78	Too acid	1.00

Table 21.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
110F:					
Waldport, thin surface	85	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Droughty	1.00	Droughty	1.00
		Too acid	0.78	Too acid	1.00
		Leaching	0.45		
115A:					
Aquepts	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	1.00
		Leaching	0.50	Too acid	0.96
		Too acid	0.37	Slow water movement	0.22
		Slow water movement	0.30		
116A:					
Aquepts, warm	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	1.00
		Leaching	0.50	Too acid	0.67
		Slow water movement	0.30	Slow water movement	0.22
		Too acid	0.18		
118B:					
Oxyaquic Hapludands, flood plains	45	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Depth to saturated zone	0.99	Flooding	1.00
				Too acid	1.00
		Strongly contrasting textural stratification	0.84	Depth to saturated zone	0.99
				Strongly contrasting textural stratification	0.84
		Too acid	0.78		
		Flooding	0.60		
Alic Hapludands, terraces	30	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Too acid	0.78	Too acid	1.00
		Strongly contrasting textural stratification	0.03	Strongly contrasting textural stratification	0.03

Table 21.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
119B:					
Oxyaquic Fulvudands, flood plains	45	Very limited		Very limited	
		Strongly contrasting textural stratification	1.00	Flooding	1.00
		Depth to saturated zone	0.98	Strongly contrasting textural stratification	1.00
		Flooding	0.60	Depth to saturated zone	0.98
		Too acid	0.37	Too acid	0.96
Typic Fulvudands, terraces	30	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Too acid	0.78	Too acid	1.00
120C:					
Alic Hapludands, terraces	60	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Too acid	0.78	Too acid	1.00
		Strongly contrasting textural stratification	0.03	Strongly contrasting textural stratification	0.03
Alic Hapludands, fans	35	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Too acid	0.78	Too acid	1.00
		Slope	0.37	Slope	0.37
121D:					
Fendall	50	Very limited		Very limited	
		Slope	1.00	Too acid	1.00
		Too acid	0.50	Slope	1.00
		Slow water movement	0.30	Slow water movement	0.22
		Depth to bedrock	0.16	Depth to bedrock	0.16
Munsoncreek	30	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00
		Slow water movement	0.50	Slow water movement	0.37
125B:					
Siletz	80	Somewhat limited		Somewhat limited	
		Slow water movement	0.30	Too acid	0.85
		Too acid	0.27	Slow water movement	0.22
126B:					
Siletz, warm	80	Somewhat limited		Somewhat limited	
		Slow water movement	0.30	Too acid	0.85
		Too acid	0.27	Slow water movement	0.22

Table 21.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
127C:					
Condorbridge, warm--	80	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slow water movement	0.50	Too acid	0.85
		Too acid	0.27	Slow water movement	0.37
128B:					
Siletz--------------	45	Somewhat limited		Somewhat limited	
		Slow water movement	0.30	Too acid	0.85
		Too acid	0.27	Slow water movement	0.22
Wolfer--------------	40	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Too acid	0.11	Too acid	0.42
		Strongly contrasting textural stratification	0.10	Strongly contrasting textural stratification	0.10
144F:					
Harslow, south slopes-------------	40	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Droughty	0.78	Too acid	1.00
		Too acid	0.78	Droughty	0.78
		Depth to bedrock	0.03	Depth to bedrock	0.03
Rock outcrop, south slopes-------------	30	Not rated		Not rated	
Klistan, south slopes-------------	20	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
		Droughty	0.20	Droughty	0.20
145F:					
Rock outcrop--------	60	Not rated		Not rated	
Harslow-------------	25	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Droughty	0.78	Too acid	1.00
		Too acid	0.78	Droughty	0.78
		Depth to bedrock	0.03	Depth to bedrock	0.03
156F:					
Sevencedars---------	55	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00

Table 21.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
156F:					
Newanna	30	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
		Droughty	0.18	Droughty	0.18
		Depth to bedrock	0.01	Depth to bedrock	0.01
157D:					
Caterl, till substratum	80	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00
157E:					
Caterl, till substratum	80	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
157F:					
Caterl, till substratum	80	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
158D:					
Sevencedars, till substratum	80	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00
158E:					
Sevencedars, till substratum	80	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
158F:					
Sevencedars, till substratum	85	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
159D:					
Sevencedars, clayey	85	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00
		Slow water movement	0.50	Slow water movement	0.37
		Large stones on surface	0.32	Large stones on surface	0.32

Table 21.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
161D:					
Sevencedars	35	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00
Newanna	30	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00
		Droughty	0.18	Droughty	0.18
		Depth to bedrock	0.01	Depth to bedrock	0.01
Woodspoint	25	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00
161E:					
Sevencedars	50	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
Newanna	20	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
		Droughty	0.18	Droughty	0.18
		Depth to bedrock	0.01	Depth to bedrock	0.01
Woodspoint	20	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
161F:					
Newanna	35	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
		Droughty	0.18	Droughty	0.18
		Depth to bedrock	0.01	Depth to bedrock	0.01
Sevencedars	35	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
Rock outcrop	20	Not rated		Not rated	
162D:					
Mosscreek	50	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00

Table 21.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
162D:					
Fawceter	40	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00
162E:					
Mosscreek	50	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
Fawceter	45	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
163F:					
Fawceter	40	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
Killam	25	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
		Depth to bedrock	0.35	Depth to bedrock	0.35
		Large stones on surface	0.22	Large stones on surface	0.22
Mosscreek	20	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
164F:					
Killam	35	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
		Depth to bedrock	0.35	Depth to bedrock	0.35
		Large stones on surface	0.22	Large stones on surface	0.22
Fawceter	30	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
Rock outcrop	20	Not rated		Not rated	
166F:					
Rock outcrop	60	Not rated		Not rated	

Table 21.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
166F:					
Killam	25	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
		Depth to bedrock	0.35	Depth to bedrock	0.35
		Large stones on surface	0.22	Large stones on surface	0.22
170A:					
Logsden	85	Somewhat limited		Somewhat limited	
		Too acid	0.32	Too acid	0.91
				Flooding	0.40
170B:					
Logsden	50	Somewhat limited		Somewhat limited	
		Too acid	0.32	Too acid	0.91
				Flooding	0.40
Nehalem, occasional flooding	40	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Too acid	0.11	Too acid	0.42
173B:					
Tillamook	45	Somewhat limited		Very limited	
		Depth to saturated zone	0.99	Too acid	1.00
		Too acid	0.73	Depth to saturated zone	0.99
		Slow water movement	0.30	Slow water movement	0.22
Ginger	40	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slow water movement	1.00
		Leaching	0.50	Too acid	0.85
		Too acid	0.27		
173C:					
Tillamook	45	Somewhat limited		Very limited	
		Depth to saturated zone	0.99	Too acid	1.00
		Too acid	0.73	Depth to saturated zone	0.99
		Slow water movement	0.30	Slow water movement	0.22
		Slope	0.04	Slope	0.04
Ginger	40	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slow water movement	1.00
		Leaching	0.50	Too acid	0.85
		Too acid	0.27	Slope	0.04
		Slope	0.04		

Table 21.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
174C:					
Typic Fulvudands, terraces	60	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Too acid	0.78	Too acid	1.00
Typic Fulvudands, fans	35	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Too acid	0.78	Too acid	1.00
		Slope	0.37	Slope	0.37
175D:					
Astoria	80	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Slow water movement	0.89	Slope	1.00
		Too acid	0.78	Slow water movement	0.78
176D:					
Preacher	65	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00
Bohannon	20	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00
		Depth to bedrock	0.01	Depth to bedrock	0.01
176E:					
Preacher	55	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
Bohannon	30	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
		Depth to bedrock	0.01	Depth to bedrock	0.01
177B:					
Dystrudepts	65	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Too acid	1.00
		Too acid	0.78	Slow water movement	1.00
		Leaching	0.50		

Table 21.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
177B:					
Aquepts	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	1.00
		Leaching	0.50	Too acid	0.77
		Slow water movement	0.30	Slow water movement	0.22
		Too acid	0.22		
178B:					
Fluventic Humic Dystrudepts	45	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Flooding	1.00	Flooding	1.00
		Too acid	0.78	Too acid	1.00
		Depth to saturated zone	0.53	Depth to saturated zone	0.53
Dystrudepts	25	Somewhat limited		Somewhat limited	
		Too acid	0.43	Too acid	0.99
Aquepts	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	1.00
		Leaching	0.50	Too acid	0.96
		Too acid	0.37	Slow water movement	0.22
		Slow water movement	0.30		
180D:					
Salander	85	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00
180E:					
Salander	60	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
Necanicum	25	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
180F:					
Salander	50	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
Necanicum	20	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00

Table 21.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
180F:					
Neskowin	15	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
		Depth to bedrock	0.65	Depth to bedrock	0.65
181E:					
Neskowin	60	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
		Depth to bedrock	0.65	Depth to bedrock	0.65
Salander	25	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
181F:					
Neskowin	35	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
		Depth to bedrock	0.65	Depth to bedrock	0.65
Rock outcrop	30	Not rated		Not rated	
Necanicum	20	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
182D:					
Neotsu	60	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00
		Depth to bedrock	0.29	Depth to bedrock	0.29
Salander	30	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00
183D:					
Winema	55	Very limited		Very limited	
		Slope	1.00	Too acid	1.00
		Too acid	0.50	Slope	1.00
		Slow water movement	0.30	Slow water movement	0.22
Fendall	30	Very limited		Very limited	
		Slope	1.00	Too acid	1.00
		Too acid	0.50	Slope	1.00
		Slow water movement	0.30	Slow water movement	0.22
		Depth to bedrock	0.16	Depth to bedrock	0.16

Table 21.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
185F:					
Udorthents, steep	50	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Droughty	1.00	Droughty	1.00
		Depth to bedrock	0.95	Too acid	1.00
		Too acid	0.78	Depth to bedrock	0.95
Rock outcrop	30	Not rated		Not rated	
190D:					
Mulkey	85	Somewhat limited		Very limited	
		Depth to bedrock	0.80	Too acid	1.00
		Slope	0.63	Depth to bedrock	0.80
		Too acid	0.56	Slope	0.63
191B:					
Siletz	40	Somewhat limited		Somewhat limited	
		Slow water movement	0.30	Too acid	0.85
		Too acid	0.27	Slow water movement	0.22
Euchre	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.73	Too acid	1.00
		Leaching	0.50	Slow water movement	0.22
		Slow water movement	0.30		
192A:					
Yachats, occasional flooding	85	Somewhat limited		Very limited	
		Flooding	0.60	Flooding	1.00
		Too acid	0.05	Too acid	0.21
303F:					
Ascar	50	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
		Droughty	0.17	Droughty	0.17
Rock outcrop	40	Not rated		Not rated	
307F:					
Braun	45	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
		Depth to bedrock	0.06	Depth to bedrock	0.06
		Droughty	0.01	Droughty	0.01
Scaponia	35	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00

Table 21.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
309D:					
Caterl	45	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00
Laderly	35	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00
		Droughty	0.74	Droughty	0.74
		Depth to bedrock	0.46	Depth to bedrock	0.46
309E:					
Caterl	40	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
Laderly	35	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
		Droughty	0.74	Droughty	0.74
		Depth to bedrock	0.46	Depth to bedrock	0.46
314A:					
Croquib	85	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.86	Too acid	1.00
		Runoff	0.40	Strongly contrasting textural stratification	0.15
		Strongly contrasting textural stratification	0.15		
322F:					
Harslow	50	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Droughty	0.78	Too acid	1.00
		Too acid	0.78	Droughty	0.78
		Depth to bedrock	0.03	Depth to bedrock	0.03
Kilchis	35	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Droughty	1.00	Too acid	1.00
		Too acid	0.78	Droughty	1.00

Table 21.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
327:					
Dystrudepts, steep	95	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
		Depth to bedrock	0.06	Depth to bedrock	0.06
328:					
Dystrudepts	45	Somewhat limited		Somewhat limited	
		Too acid	0.43	Too acid	0.99
		Slope	0.16	Slope	0.16
Humaquepts, isomesic	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Leaching	0.50	Too acid	0.96
		Too acid	0.37	Slow water movement	0.22
		Slow water movement	0.30		
329F:					
Kilchis	45	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Droughty	1.00	Too acid	1.00
		Too acid	0.78	Droughty	1.00
Rock outcrop	35	Not rated		Not rated	
338F:					
Laderly	40	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
		Droughty	0.74	Droughty	0.74
		Depth to bedrock	0.46	Depth to bedrock	0.46
Rock outcrop	35	Not rated		Not rated	
342D:					
McMille	85	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00
345A:					
Mues	85	Somewhat limited		Very limited	
		Depth to saturated zone	0.99	Too acid	1.00
		Too acid	0.50	Depth to saturated zone	0.99
		Strongly contrasting textural stratification	0.06	Strongly contrasting textural stratification	0.06

Table 21.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
346D:					
Murtip--------------	75	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00
347E:					
Murtip--------------	45	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
Caterl--------------	35	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
350E:					
Necanicum-----------	45	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
Ascar---------------	30	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
		Droughty	0.17	Droughty	0.17
356D:					
Rinearson-----------	85	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00
357E:					
Scaponia------------	50	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
Braun---------------	35	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
		Depth to bedrock	0.06	Depth to bedrock	0.06
		Droughty	0.01	Droughty	0.01
358D:					
Skipanon------------	80	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00
358E:					
Skipanon------------	80	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00

Table 21.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
359D:					
Svensen	85	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00
		Leaching	0.45		
359E:					
Svensen	85	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
		Leaching	0.45		
363D:					
Tolke	80	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00
371C:					
Walluski	85	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Depth to saturated zone	0.95	Too acid	1.00
		Too acid	0.78	Depth to saturated zone	0.95
		Slope	0.37	Slope	0.37
		Slow water movement	0.30	Slow water movement	0.22
403E:					
Astoria	80	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Slow water movement	0.89	Too acid	1.00
		Too acid	0.78	Slow water movement	0.78
420E:					
Hembre	85	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
420F:					
Hembre	85	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
425E:					
Klickitat	80	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
		Droughty	0.65	Droughty	0.65
		Large stones on surface	0.32	Large stones on surface	0.32

Table 21.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
433D:					
Melby	80	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00
		Slow water movement	0.30	Slow water movement	0.22
433E:					
Melby	80	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
		Slow water movement	0.30	Slow water movement	0.22
439E:					
Tolke	70	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
501D:					
Apt	55	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Too acid	0.78	Too acid	1.00
		Slope	0.63	Slope	0.63
		Slow water movement	0.30	Slow water movement	0.22
McDuff	30	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too acid	1.00
		Too acid	0.78	Slow water movement	0.94
		Slope	0.63	Slope	0.63
		Depth to bedrock	0.03	Depth to bedrock	0.03
501E:					
Apt	50	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
		Slow water movement	0.30	Slow water movement	0.22
McDuff	30	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Slow water movement	1.00	Too acid	1.00
		Too acid	0.78	Slow water movement	0.94
		Depth to bedrock	0.03	Depth to bedrock	0.03

Table 21.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
517A:					
Euchre	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.73	Too acid	1.00
		Leaching	0.50	Slow water movement	0.22
		Slow water movement	0.30		
519D:					
Fendall	50	Very limited		Very limited	
		Slope	1.00	Too acid	1.00
		Too acid	0.50	Slope	1.00
		Slow water movement	0.30	Slow water movement	0.22
		Depth to bedrock	0.16	Depth to bedrock	0.16
Winema	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Too acid	0.50	Too acid	1.00
		Slow water movement	0.30	Slow water movement	0.22
532D:					
Klootchie	45	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00
Neotsu	35	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00
		Depth to bedrock	0.29	Depth to bedrock	0.29
532E:					
Klootchie	50	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
Neotsu	30	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
		Depth to bedrock	0.29	Depth to bedrock	0.29
543F:					
Neotsu	40	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
		Depth to bedrock	0.29	Depth to bedrock	0.29
Necanicum	35	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00

Table 21.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
552F:					
Reedsport	50	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
		Depth to bedrock	0.16	Depth to bedrock	0.16
Tolovana	30	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
		Slow water movement	0.50	Slow water movement	0.37
555D:					
Templeton	55	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00
Fendall	30	Very limited		Very limited	
		Slope	1.00	Too acid	1.00
		Too acid	0.50	Slope	1.00
		Slow water movement	0.30	Slow water movement	0.22
		Depth to bedrock	0.16	Depth to bedrock	0.16
556D:					
Tolovana	45	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00
		Slow water movement	0.50	Slow water movement	0.37
Reedsport	35	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.78	Slope	1.00
		Depth to bedrock	0.16	Depth to bedrock	0.16
556E:					
Tolovana	50	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
		Slow water movement	0.50	Slow water movement	0.37
Reedsport	35	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00
		Too acid	0.78	Too acid	1.00
		Depth to bedrock	0.16	Depth to bedrock	0.16

Table 21.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
611B:					
Dystrudepts, warm	50	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Too acid	1.00
		Too acid	0.78	Slow water movement	1.00
		Leaching	0.50		
Aquepts, warm	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	1.00
		Leaching	0.50	Too acid	0.77
		Slow water movement	0.30	Slow water movement	0.22
		Too acid	0.22		
Humaquepts, warm	15	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Leaching	0.50	Too acid	0.96
		Too acid	0.37	Slow water movement	0.22
		Slow water movement	0.30		
W:					
Water	100	Not rated		Not rated	

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
1A:					
Brenner	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Flooding	1.00	Depth to saturated zone	1.00
		Slow water movement	0.67	Flooding	1.00
		Too acid	0.42	Too acid	0.42
2A:					
Fluvaquents	60	Very limited		Very limited	
		Ponding	1.00	Seepage	1.00
		Depth to saturated zone	1.00	Ponding	1.00
		Flooding	1.00	Depth to saturated zone	1.00
				Flooding	1.00
				Too level	0.50
Histosols	35	Very limited		Very limited	
		Ponding	1.00	Seepage	1.00
		Depth to saturated zone	1.00	Ponding	1.00
		Flooding	1.00	Depth to saturated zone	1.00
		Slow water movement	0.22	Flooding	1.00
		Too acid	0.07	Too level	0.50
3A:					
Coquille	85	Very limited		Very limited	
		Ponding	1.00	Seepage	1.00
		Depth to saturated zone	1.00	Ponding	1.00
		Flooding	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Flooding	1.00
		Too acid	0.42	Too level	0.50
4D:					
Ginsberg	85	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00		
		Slow water movement	0.37		

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
4E:					
Ginsberg	60	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00		
		Slow water movement	0.37		
Klistan	20	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
				Depth to bedrock	0.88
		Too acid	1.00		
		Droughty	0.20		
5E:					
Ferrelo	90	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00		
6D:					
Horseprairie	65	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	0.78		
Ferrelo	25	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	0.78		

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
7:					
Dune land	80	Not rated		Not rated	
8A:					
Depoe	85	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Too acid	1.00	Too acid	1.00
9B:					
Waldport	85	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Droughty	1.00	Too acid	0.85
		Too acid	0.85		
9C:					
Waldport	85	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Droughty	1.00	Too acid	0.85
		Too steep for surface application	1.00	Too steep for surface application	0.22
		Too acid	0.85		
		Too steep for sprinkler application	0.10		
9D:					
Waldport	85	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Droughty	1.00	Too steep for surface application	1.00
		Too steep for surface application	1.00	Too acid	0.85
		Too steep for sprinkler application	1.00		
		Too acid	0.85		
9E:					
Waldport	85	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Droughty	1.00	Too steep for surface application	1.00
		Too steep for surface application	1.00	Too acid	0.85
		Too steep for sprinkler application	1.00		
		Too acid	0.85		

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
10B:					
Waldport, thin surface	85	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Droughty	1.00	Too acid	1.00
		Too acid	1.00		
10C:					
Waldport, thin surface	90	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Droughty	1.00	Too acid	1.00
		Too acid	1.00	Too steep for surface application	0.50
		Too steep for surface application	1.00		
		Too steep for sprinkler application	0.22		
10E:					
Waldport, thin surface	85	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Droughty	1.00		
		Too acid	1.00		
11B:					
Netarts	85	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Droughty	0.29		
11C:					
Netarts	90	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	0.22
		Droughty	0.29		
		Too steep for sprinkler application	0.10		

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
11D:					
Netarts	90	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00		
		Droughty	0.29		
11E:					
Netarts	90	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00		
		Droughty	0.29		
12B:					
Yaquina	85	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	1.00	Too acid	1.00
		Droughty	0.55		
13B:					
Waldport, thin surface	70	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Droughty	1.00	Too acid	1.00
		Too acid	1.00		
Heceta	25	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	1.00	Too acid	1.00
		Droughty	0.35		
14A:					
Heceta	85	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	1.00	Too acid	1.00
		Droughty	0.35		

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
15B:					
Netarts	50	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Droughty	0.29		
Yaquina	45	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	1.00	Too acid	1.00
		Droughty	0.55		
16F:					
Caterl	45	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
				Depth to bedrock	0.18
		Too acid	1.00		
Laderly	25	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
				Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
				Cobble content	0.22
		Too acid	1.00		
		Droughty	0.74		
Murtip	20	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
				Depth to bedrock	0.42
		Too acid	1.00		
17B:					
Chitwood	50	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
				Depth to saturated zone	1.00
		Slow water movement	1.00	Too acid	0.96
		Too acid	0.96		
Hebo	35	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Too acid	1.00
				Seepage	0.22
		Too acid	1.00		

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
18B:					
Chitwood	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
		Too acid	0.96	Too acid	0.96
18C:					
Chitwood	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
		Too steep for surface application	1.00	Too acid	0.96
		Too acid	0.96	Too steep for surface application	0.94
		Too steep for sprinkler application	0.60		
19E:					
Klootchie	85	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00		
20D:					
Klootchie	60	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00		
Necanicum	25	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Stone content	0.12
				Cobble content	0.03

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
20E:					
Klootchie	55	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00		
Necanicum	30	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
				Stone content	0.12
				Cobble content	0.03
		Too acid	1.00		
21F:					
Necanicum	40	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
				Stone content	0.12
				Cobble content	0.03
		Too acid	1.00		
Ascar	25	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
				Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
				Cobble content	1.00
		Too acid	1.00		
		Droughty	0.17		
Klootchie	20	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00		

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
22F:					
Ascar	35	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Too acid	1.00
		Droughty	0.17	Cobble content	1.00
Necanicum	30	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00	Stone content	0.12
				Cobble content	0.03
Rock outcrop	20	Not rated		Not rated	
23F:					
Rock outcrop	60	Not rated		Not rated	
Ascar	25	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Too acid	1.00
		Droughty	0.17	Cobble content	1.00
24C:					
Lebam	85	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	0.92	Too steep for surface application	0.06
		Slow water movement	0.37		
		Too steep for sprinkler application	0.02		

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
24D:					
Lebam	85	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00		
		Slow water movement	0.37		
25E:					
Lebam	60	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00		
		Slow water movement	0.37		
Necanicum	20	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
				Stone content	0.12
				Cobble content	0.03
		Too acid	1.00		
26F:					
Lebam	55	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00		
		Slow water movement	0.37		
Necanicum	25	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
				Stone content	0.12
				Cobble content	0.03
		Too acid	1.00		

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
28D:					
Templeton-----------	60	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00		
Necanicum-----------	25	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Stone content	0.12
				Cobble content	0.03
29D:					
Templeton-----------	50	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00		
Klootchie-----------	35	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00		
29E:					
Templeton-----------	45	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00		

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
29E:					
Klootchie	40	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00		
30D:					
Templeton	85	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00		
30E:					
Templeton	60	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00		
Ecola	20	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Too acid	1.00
		Depth to bedrock	0.06		
30F:					
Templeton	45	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00		

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
30F:					
Ecola	40	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Too acid	1.00
		Depth to bedrock	0.06		
31D:					
Tolovana	45	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00		
		Slow water movement	0.37		
Templeton	40	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00		
31E:					
Tolovana	50	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00		
		Slow water movement	0.37		
Templeton	25	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00		

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
32D:					
Munsoncreek	65	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	0.01
		Slow water movement	0.37		
Flowerpot	20	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00		
32E:					
Munsoncreek	65	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
				Depth to bedrock	0.01
		Too acid	1.00		
		Slow water movement	0.37		
Templeton	20	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00		

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
33D:					
Tolovana	85	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00		
		Slow water movement	0.37		
37D:					
Templeton	45	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00		
Skipanon	30	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00		
37E:					
Templeton	55	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00		
Skipanon	30	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00		

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
38E:					
Templeton-----------	50	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00		
Necanicum-----------	35	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
				Stone content	0.12
				Cobble content	0.03
		Too acid	1.00		
43F:					
Klistan-------------	35	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
				Depth to bedrock	0.88
		Too acid	1.00		
		Droughty	0.20		
Harslow-------------	30	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
				Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
				Cobble content	0.14
		Too acid	1.00		
		Droughty	0.78		
Hemcross------------	25	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00		

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
44E:					
Klistan	35	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00	Depth to bedrock	0.88
		Droughty	0.20		
Harslow	30	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Too acid	1.00
		Droughty	0.78	Cobble content	0.14
Rock outcrop	20	Not rated		Not rated	
44F:					
Harslow	35	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Too acid	1.00
		Droughty	0.78	Cobble content	0.14
Klistan	30	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00	Depth to bedrock	0.88
		Droughty	0.20		
Rock outcrop	20	Not rated		Not rated	
45B:					
Hebo	80	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Too acid	1.00
		Too acid	1.00	Seepage	0.22

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
48D:					
Hemcross	60	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00		
Klistan	25	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	0.88
		Droughty	0.20		
48E:					
Hemcross	50	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00		
Klistan	35	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
				Depth to bedrock	0.88
		Too acid	1.00		
		Droughty	0.20		
50B:					
Walluski	80	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Depth to saturated zone	0.95	Depth to saturated zone	0.95
		Slow water movement	0.22		

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
51B:					
Walluski	45	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Depth to saturated zone	0.95	Depth to saturated zone	0.95
		Slow water movement	0.22		
Chitwood	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
		Too acid	0.96	Too acid	0.96
51C:					
Walluski	45	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Depth to saturated zone	0.95
		Depth to saturated zone	0.95	Too steep for surface application	0.50
		Slow water movement	0.22		
Chitwood	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
		Too steep for surface application	1.00	Too acid	0.96
		Too acid	0.96	Too steep for surface application	0.50
		Too steep for sprinkler application	0.22		
54B:					
Knappa	85	Very limited		Very limited	
		Too acid	1.00	Seepage	1.00
				Too acid	1.00
55A:					
Histosols	55	Very limited		Very limited	
		Ponding	1.00	Seepage	1.00
		Depth to saturated zone	1.00	Ponding	1.00
		Flooding	1.00	Depth to saturated zone	1.00
		Slow water movement	0.22	Flooding	1.00
		Too acid	0.07	Too level	0.50
Water	45	Not rated		Not rated	

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
56B:					
Wolfer	80	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	0.42	Too acid	0.42
56C:					
Wolfer	85	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	0.50
		Too acid	0.42	Too acid	0.42
		Too steep for sprinkler application	0.22		
57B:					
Condorbridge	85	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	0.85	Too acid	0.85
		Slow water movement	0.37		
57C:					
Condorbridge	80	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too acid	0.85
		Too acid	0.85	Too steep for surface application	0.22
		Slow water movement	0.37		
		Too steep for sprinkler application	0.10		
58C:					
Knappa	85	Very limited		Very limited	
		Too acid	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too acid	1.00
		Too steep for sprinkler application	0.22	Too steep for surface application	0.50
59B:					
Chitwood	45	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
		Too acid	0.96	Too acid	0.96
Knappa	40	Very limited		Very limited	
		Too acid	1.00	Seepage	1.00
				Too acid	1.00

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
60E:					
Caterl	35	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00	Depth to bedrock	0.18
Laderly	30	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Too acid	1.00
		Droughty	0.74	Cobble content	0.22
Rock outcrop	25	Not rated		Not rated	
60F:					
Laderly	35	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Too acid	1.00
		Droughty	0.74	Cobble content	0.22
Caterl	30	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00	Depth to bedrock	0.18
Rock outcrop	20	Not rated		Not rated	

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
61F:					
Laderly, south slopes	40	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Too acid	1.00
		Droughty	0.74	Cobble content	0.22
Rock outcrop, south slopes	25	Not rated		Not rated	
Caterl, south slopes	20	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00	Depth to bedrock	0.18
62F:					
Rock outcrop	60	Not rated		Not rated	
Laderly	25	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Too acid	1.00
		Droughty	0.74	Cobble content	0.22
70D:					
Murtip	45	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	0.42

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
70D:					
Caterl	30	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	0.18
Laderly	15	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Depth to bedrock	1.00
		Too steep for surface application	1.00	Too acid	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Droughty	0.74	Cobble content	0.22
70E:					
Murtip	40	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00	Depth to bedrock	0.42
Caterl	30	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00	Depth to bedrock	0.18
Laderly	15	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Too acid	1.00
		Droughty	0.74	Cobble content	0.22

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
71D:					
McMille	50	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	0.84
Mutt	35	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Depth to bedrock	1.00
		Too steep for surface application	1.00	Too acid	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Depth to bedrock	0.84		
72D:					
Caterl, clayey	60	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Cobble content	0.99
		Slow water movement	0.22	Depth to bedrock	0.18
Murtip, clayey	20	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Cobble content	0.71
		Slow water movement	0.22	Depth to bedrock	0.42
73A:					
Nehalem, frequent flooding	75	Very limited		Very limited	
		Flooding	1.00	Seepage	1.00
		Too acid	0.42	Flooding	1.00
				Too acid	0.42

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
74A:					
Nehalem, occasional flooding	80	Very limited		Very limited	
		Flooding	1.00	Seepage	1.00
		Too acid	0.42	Flooding	1.00
				Too acid	0.42
76A:					
Nestucca	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Flooding	1.00	Depth to saturated zone	1.00
		Too acid	0.96	Flooding	1.00
		Slow water movement	0.67	Too acid	0.96
77A:					
Nestucca	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Flooding	1.00	Depth to saturated zone	1.00
		Too acid	0.96	Flooding	1.00
		Slow water movement	0.67	Too acid	0.96
Brenner	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Flooding	1.00	Depth to saturated zone	1.00
		Slow water movement	0.67	Flooding	1.00
		Too acid	0.42	Too acid	0.42
80B:					
Quillamook	80	Somewhat limited		Very limited	
		Too acid	0.67	Seepage	1.00
				Too acid	0.67
81B:					
Quillamook, gravelly substratum	60	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	0.67	Too acid	0.67
Quillamook	25	Somewhat limited		Very limited	
		Too acid	0.67	Seepage	1.00
				Too acid	0.67
81C:					
Quillamook, gravelly substratum	60	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too acid	0.67
		Too acid	0.67	Too steep for surface application	0.50
		Too steep for sprinkler application	0.22		

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
81C:					
Quillamook	25	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	0.67	Too acid	0.67
		Too steep for sprinkler application	0.22	Too steep for surface application	0.50
89A:					
Udifluvents	40	Very limited		Very limited	
		Flooding	1.00	Seepage	1.00
		Too acid	0.96	Flooding	1.00
				Too acid	0.96
Riverwash	30	Not rated		Not rated	
Water	25	Not rated		Not rated	
90A:					
Yachats	85	Very limited		Very limited	
		Flooding	1.00	Seepage	1.00
		Too acid	0.21	Flooding	1.00
				Too acid	0.21
91A:					
Gauldy	85	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Flooding	1.00	Flooding	1.00
		Too acid	0.96	Too acid	0.96
		Droughty	0.02		
92A:					
Yachats	45	Very limited		Very limited	
		Flooding	1.00	Seepage	1.00
		Too acid	0.21	Flooding	1.00
				Too acid	0.21
Gauldy	40	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Flooding	1.00	Flooding	1.00
		Too acid	0.96	Too acid	0.96
		Droughty	0.02		
93B:					
Gauldy, occasional flooding	50	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	0.96	Flooding	1.00
		Flooding	0.60	Too acid	0.96
		Droughty	0.02		
Gauldy, rare flooding	35	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	0.96	Too acid	0.96
		Droughty	0.02	Flooding	0.40

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
94B:					
Ginger	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
		Too acid	0.85	Too acid	0.85
Quillamook	30	Somewhat limited		Very limited	
		Too acid	0.67	Seepage	1.00
				Too acid	0.67
Urban land	30	Not rated		Not rated	
95B:					
Urban land	55	Not rated		Not rated	
Quillamook	30	Somewhat limited		Very limited	
		Too acid	0.67	Seepage	1.00
				Too acid	0.67
96B:					
Ginger	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
		Too acid	0.85	Too acid	0.85
Hebo	35	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Too acid	1.00
		Too acid	1.00	Seepage	0.22
99:					
Beaches	95	Not rated		Not rated	
100B:					
Urban land	65	Not rated		Not rated	
Udorthents	25	Somewhat limited		Very limited	
		Too acid	0.96	Seepage	1.00
		Droughty	0.90	Too acid	0.96
101B:					
Urban land, flooded	65	Not rated		Not rated	
Udorthents, flooded	25	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.96	Flooding	1.00
		Droughty	0.90	Seepage	1.00
		Flooding	0.60	Too acid	0.96

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
102A:					
Fluvaquents, diked--	60	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Flooding	1.00	Depth to saturated zone	1.00
				Flooding	1.00
				Too level	0.50
Histosols, diked----	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Flooding	1.00	Depth to saturated zone	1.00
		Slow water movement	0.22	Flooding	1.00
		Too acid	0.07	Too level	0.50
				Too acid	0.07
103A:					
Coquille, diked-----	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Flooding	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Flooding	1.00
		Too acid	1.00	Too acid	1.00
				Too level	1.00
104A:					
Coquille, protected	50	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Too acid	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Too acid	1.00
				Too level	1.00
				Flooding	0.40
Brenner, protected--	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Too acid	1.00	Depth to saturated zone	1.00
		Slow water movement	0.67	Too acid	1.00
				Flooding	0.40
Nehalem, protected--	15	Very limited		Very limited	
		Too acid	1.00	Seepage	1.00
				Too acid	1.00
110F:					
Waldport, thin surface------------	85	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Droughty	1.00		
		Too acid	1.00		

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
115A:					
Aquepts	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	1.00
		Too acid	0.96	Too acid	0.96
		Slow water movement	0.22	Seepage	0.77
				Too level	0.50
116A:					
Aquepts, warm	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	1.00
		Too acid	0.67	Seepage	1.00
		Slow water movement	0.22	Too acid	0.67
				Too level	0.50
118B:					
Oxyaquic Hapludands, flood plains	45	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Flooding	1.00
		Depth to saturated zone	0.99	Too acid	1.00
		Flooding	0.60	Depth to saturated zone	0.99
		Slow water movement	0.22		
Alic Hapludands, terraces	30	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	0.08		
119B:					
Oxyaquic Fulvudands, flood plains	45	Somewhat limited		Very limited	
		Depth to saturated zone	0.98	Seepage	1.00
		Too acid	0.96	Flooding	1.00
		Flooding	0.60	Depth to saturated zone	0.98
				Too acid	0.96
				Cobble content	0.34
Typic Fulvudands, terraces	30	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	0.08		

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
120C:					
Alic Hapludands, terraces	60	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	0.68		
Alic Hapludands, fans	35	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	0.94
		Too steep for sprinkler application	0.60		
121D:					
Fendall	50	Very limited		Very limited	
		Too acid	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
				Too acid	1.00
				Too steep for surface application	1.00
		Too steep for sprinkler application	1.00		
		Slow water movement	0.22		
		Depth to bedrock	0.16		
Munsoncreek	30	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	0.01
		Slow water movement	0.37		
125B:					
Siletz	80	Somewhat limited		Very limited	
		Too acid	0.85	Seepage	1.00
		Slow water movement	0.22	Too acid	0.85
126B:					
Siletz, warm	80	Somewhat limited		Very limited	
		Too acid	0.85	Seepage	1.00
		Slow water movement	0.22	Too acid	0.85

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
127C:					
Condorbridge, warm--	80	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too acid	0.85
		Too acid	0.85	Too steep for surface application	0.22
		Slow water movement	0.37		
		Too steep for sprinkler application	0.10		
128B:					
Siletz--------------	45	Somewhat limited		Very limited	
		Too acid	0.85	Seepage	1.00
		Slow water movement	0.22	Too acid	0.85
Wolfer--------------	40	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	0.42	Too acid	0.42
144F:					
Harslow, south slopes-------------	40	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Too acid	1.00
		Droughty	0.78	Cobble content	0.14
Rock outcrop, south slopes-------------	30	Not rated		Not rated	
Klistan, south slopes-------------	20	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00	Depth to bedrock	0.88
		Droughty	0.20		
145F:					
Rock outcrop--------	60	Not rated		Not rated	

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
145F:					
Harslow	25	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Too acid	1.00
		Droughty	0.78	Cobble content	0.14
156F:					
Sevencedars	55	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00	Cobble content	0.05
Newanna	30	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Too acid	1.00
		Droughty	0.18	Cobble content	1.00
157D:					
Caterl, till substratum	80	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Cobble content	0.99
157E:					
Caterl, till substratum	80	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00	Cobble content	0.99

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
157F:					
Caterl, till substratum	80	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
				Cobble content	0.99
		Too acid	1.00		
158D:					
Sevencedars, till substratum	80	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Cobble content	0.57
158E:					
Sevencedars, till substratum	80	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
				Cobble content	0.57
		Too acid	1.00		
158F:					
Sevencedars, till substratum	85	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
				Cobble content	0.57
		Too acid	1.00		

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
159D:					
Sevencedars, clayey	85	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Cobble content	0.99
				Stone content	0.44
		Slow water movement	0.37		
161D:					
Sevencedars	35	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Cobble content	0.05
Newanna	30	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Depth to bedrock	1.00
		Too steep for surface application	1.00	Too acid	1.00
				Cobble content	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Droughty	0.18		
Woodspoint	25	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	0.54
161E:					
Sevencedars	50	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
				Cobble content	0.05
		Too acid	1.00		

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
161E:					
Newanna	20	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Too acid	1.00
		Droughty	0.18	Cobble content	1.00
Woodspoint	20	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00	Depth to bedrock	0.54
161F:					
Newanna	35	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Too acid	1.00
		Droughty	0.18	Cobble content	1.00
Sevencedars	35	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00	Cobble content	0.05
Rock outcrop	20	Not rated		Not rated	
162D:					
Mosscreek	50	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00		

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
162D:					
Fawceter	40	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Cobble content	0.23
				Depth to bedrock	0.02
162E:					
Mosscreek	50	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00		
Fawceter	45	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
				Cobble content	0.23
				Depth to bedrock	0.02
		Too acid	1.00		
163F:					
Fawceter	40	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
				Cobble content	0.23
				Depth to bedrock	0.02
		Too acid	1.00		
Killam	25	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
				Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
				Stone content	0.06
		Too acid	1.00		
		Depth to bedrock	0.35		

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
163F:					
Mosscreek	20	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00		
164F:					
Killam	35	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Too acid	1.00
		Depth to bedrock	0.35	Stone content	0.06
Fawceter	30	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
				Cobble content	0.23
				Depth to bedrock	0.02
		Too acid	1.00		
Rock outcrop	20	Not rated		Not rated	
166F:					
Rock outcrop	60	Not rated		Not rated	
Killam	25	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Too acid	1.00
		Depth to bedrock	0.35	Stone content	0.06
170A:					
Logsden	85	Somewhat limited		Very limited	
		Too acid	0.91	Seepage	1.00
				Too acid	0.91
				Flooding	0.40

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
170B:					
Logsden	50	Somewhat limited		Very limited	
		Too acid	0.91	Seepage	1.00
				Too acid	0.91
				Flooding	0.40
Nehalem, occasional flooding	40	Very limited		Very limited	
		Flooding	1.00	Seepage	1.00
		Too acid	0.42	Flooding	1.00
				Too acid	0.42
173B:					
Tillamook	45	Very limited		Very limited	
		Too acid	1.00	Seepage	1.00
		Depth to saturated zone	0.99	Too acid	1.00
		Slow water movement	0.22	Depth to saturated zone	0.99
Ginger	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
		Too acid	0.85	Too acid	0.85
173C:					
Tillamook	45	Very limited		Very limited	
		Too acid	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too acid	1.00
		Depth to saturated zone	0.99	Depth to saturated zone	0.99
		Too steep for sprinkler application	0.22	Too steep for surface application	0.50
		Slow water movement	0.22		
Ginger	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
		Too steep for surface application	1.00	Too acid	0.85
		Too acid	0.85	Too steep for surface application	0.50
		Too steep for sprinkler application	0.22		

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
174C:					
Typic Fulvudands, terraces	60	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	0.68		
Typic Fulvudands, fans	35	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	0.94
		Too steep for sprinkler application	0.60		
175D:					
Astoria	80	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	0.32
		Slow water movement	0.78		
176D:					
Preacher	65	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	0.26
Bohannon	20	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Depth to bedrock	1.00
		Too steep for surface application	1.00	Too acid	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Depth to bedrock	0.01		

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
176E:					
Preacher	55	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00	Depth to bedrock	0.26
Bohannon	30	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Too acid	1.00
		Depth to bedrock	0.01		
177B:					
Dystrudepts	65	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	1.00	Too acid	1.00
		Slow water movement	1.00		
Aquepts	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Flooding	1.00	Depth to saturated zone	1.00
		Too acid	0.77	Flooding	1.00
		Slow water movement	0.22	Too acid	0.77
178B:					
Fluventic Humic Dystrudepts	45	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Flooding	1.00	Flooding	1.00
		Too acid	1.00	Too acid	1.00
		Depth to saturated zone	0.53	Depth to saturated zone	0.53
Dystrudepts	25	Somewhat limited		Very limited	
		Too acid	0.99	Seepage	1.00
				Too acid	0.99
Aquepts	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Flooding	1.00	Depth to saturated zone	1.00
		Too acid	0.96	Flooding	1.00
		Slow water movement	0.22	Too acid	0.96

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
180D:					
Salander------------	85	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00		
180E:					
Salander------------	60	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00		
Necanicum-----------	25	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
				Stone content	0.12
				Cobble content	0.03
		Too acid	1.00		
180F:					
Salander------------	50	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00		
Necanicum-----------	20	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
				Stone content	0.12
				Cobble content	0.03
		Too acid	1.00		

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
180F:					
Neskowin	15	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Too acid	1.00
		Depth to bedrock	0.65		
181E:					
Neskowin	60	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Too acid	1.00
		Depth to bedrock	0.65		
Salander	25	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00		
181F:					
Neskowin	35	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Too acid	1.00
		Depth to bedrock	0.65		
Rock outcrop	30	Not rated		Not rated	
Necanicum	20	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00	Stone content	0.12
				Cobble content	0.03

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
182D:					
Neotsu	60	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Depth to bedrock	1.00
		Too steep for surface application	1.00	Too acid	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Depth to bedrock	0.29		
Salander	30	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00		
183D:					
Winema	55	Very limited		Very limited	
		Too acid	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too acid	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Slow water movement	0.22		
Fendall	30	Very limited		Very limited	
		Too acid	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Slow water movement	0.22	Too steep for surface application	1.00
		Depth to bedrock	0.16		
185F:					
Udorthents, steep	50	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Droughty	1.00	Too acid	1.00
		Too acid	1.00		

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
185F:					
Rock outcrop	30	Not rated		Not rated	
190D:					
Mulkey	85	Very limited		Very limited	
		Too acid	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
		Depth to bedrock	0.80	Too acid	1.00
		Too steep for sprinkler application	0.78	Too steep for surface application	1.00
				Cobble content	0.17
191B:					
Siletz	40	Somewhat limited		Very limited	
		Too acid	0.85	Seepage	1.00
		Slow water movement	0.22	Too acid	0.85
Euchre	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Too acid	1.00	Depth to saturated zone	1.00
		Slow water movement	0.22	Too acid	1.00
192A:					
Yachats, occasional flooding	85	Somewhat limited		Very limited	
		Flooding	0.60	Seepage	1.00
		Too acid	0.21	Flooding	1.00
				Too acid	0.21
303F:					
Ascar	50	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Too acid	1.00
		Droughty	0.17	Cobble content	1.00
Rock outcrop	40	Not rated		Not rated	
307F:					
Braun	45	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Too acid	1.00
		Depth to bedrock	0.06		

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
307F:					
Scaponia	35	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
				Depth to bedrock	0.84
		Too acid	1.00		
309D:					
Caterl	45	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	0.18
Laderly	35	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Depth to bedrock	1.00
		Too steep for surface application	1.00	Too acid	1.00
				Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Cobble content	0.22
		Droughty	0.74		
309E:					
Caterl	40	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
				Depth to bedrock	0.18
		Too acid	1.00		
Laderly	35	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
				Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
				Cobble content	0.22
		Too acid	1.00		
		Droughty	0.74		

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
314A:					
Croquib	85	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	1.00	Too acid	1.00
322F:					
Harslow	50	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Too acid	1.00
		Droughty	0.78	Cobble content	0.14
Kilchis	35	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00	Cobble content	0.88
327:					
Dystrudepts, steep	95	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Too acid	1.00
		Depth to bedrock	0.06		
328:					
Dystrudepts	45	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	0.99	Too acid	0.99
		Too steep for sprinkler application	0.40	Too steep for surface application	0.78
Humaquepts, isomesic	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.96	Seepage	1.00
		Slow water movement	0.22	Too acid	0.96

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
329F:					
Kilchis	45	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
				Cobble content	0.88
		Too acid	1.00		
Rock outcrop	35	Not rated		Not rated	
338F:					
Laderly	40	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
				Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
				Cobble content	0.22
		Too acid	1.00		
		Droughty	0.74		
Rock outcrop	35	Not rated		Not rated	
342D:					
McMille	85	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	0.84
345A:					
Mues	85	Very limited		Very limited	
		Too acid	1.00	Seepage	1.00
		Depth to saturated zone	0.99	Too acid	1.00
				Depth to saturated zone	0.99
346D:					
Murtip	75	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	0.42

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
347E:					
Murtip	45	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00	Depth to bedrock	0.42
Caterl	35	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00	Depth to bedrock	0.18
350E:					
Necanicum	45	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00	Stone content	0.12
				Cobble content	0.03
Ascar	30	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Too acid	1.00
		Droughty	0.17	Cobble content	1.00
356D:					
Rinearson	85	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	0.26

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
357E:					
Scaponia	50	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
				Depth to bedrock	0.84
		Too acid	1.00		
Braun	35	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
				Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00		
		Depth to bedrock	0.06		
358D:					
Skipanon	80	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00		
358E:					
Skipanon	80	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00		
359D:					
Svensen	85	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00		

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
359E:					
Svensen	85	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00		
363D:					
Tolke	80	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00		
371C:					
Walluski	85	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too acid	1.00
				Depth to saturated zone	0.95
		Too acid	1.00	Too steep for surface application	0.94
		Depth to saturated zone	0.95		
		Too steep for sprinkler application	0.60		
403E:					
Astoria	80	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
				Depth to bedrock	0.32
		Too acid	1.00		
		Slow water movement	0.78		
420E:					
Hembre	85	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
				Depth to bedrock	0.94
		Too acid	1.00		

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
420F:					
Hembre	85	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
				Depth to bedrock	0.94
		Too acid	1.00		
425E:					
Klickitat	80	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
				Cobble content	1.00
				Depth to bedrock	0.96
		Too acid	1.00		
		Droughty	0.65		
433D:					
Melby	80	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	0.71
		Slow water movement	0.22		
433E:					
Melby	80	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
				Depth to bedrock	0.71
		Too acid	1.00		
		Slow water movement	0.22		
439E:					
Tolke	70	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00		

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
501D:					
Apt	55	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	0.78		
		Slow water movement	0.22		
McDuff	30	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Depth to bedrock	1.00
		Too steep for surface application	1.00	Too acid	1.00
		Slow water movement	0.94	Too steep for surface application	1.00
		Too steep for sprinkler application	0.78		
501E:					
Apt	50	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00		
		Slow water movement	0.22		
McDuff	30	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Too acid	1.00
		Slow water movement	0.94		
517A:					
Euchre	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Too acid	1.00	Depth to saturated zone	1.00
		Slow water movement	0.22	Too acid	1.00

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
519D:					
Fendall	50	Very limited		Very limited	
		Too acid	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Slow water movement	0.22	Too steep for surface application	1.00
		Depth to bedrock	0.16		
Winema	30	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Too acid	1.00
		Slow water movement	0.22		
532D:					
Klootchie	45	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00		
Neotsu	35	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Depth to bedrock	1.00
		Too steep for surface application	1.00	Too acid	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Depth to bedrock	0.29		
532E:					
Klootchie	50	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00		

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
532E:					
Neotsu	30	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Too acid	1.00
		Depth to bedrock	0.29		
543F:					
Neotsu	40	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Too acid	1.00
		Depth to bedrock	0.29		
Necanicum	35	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00	Stone content	0.12
				Cobble content	0.03
552F:					
Reedsport	50	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Too acid	1.00
		Depth to bedrock	0.16		
Tolovana	30	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00		
		Slow water movement	0.37		

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
555D:					
Templeton	55	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00		
Fendall	30	Very limited		Very limited	
		Too acid	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
				Too acid	1.00
				Too steep for surface application	1.00
		Too steep for sprinkler application	1.00		
		Slow water movement	0.22		
		Depth to bedrock	0.16		
556D:					
Tolovana	45	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00		
		Slow water movement	0.37		
Reedsport	35	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	1.00	Depth to bedrock	1.00
		Too steep for surface application	1.00	Too acid	1.00
				Too steep for surface application	1.00
		Too steep for sprinkler application	1.00		
		Depth to bedrock	0.16		
556E:					
Tolovana	50	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Too acid	1.00
		Too acid	1.00		
		Slow water movement	0.37		

Table 22.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
556E:					
Reedsport	35	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Too acid	1.00	Too acid	1.00
		Depth to bedrock	0.16		
611B:					
Dystrudepts, warm	50	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	1.00	Too acid	1.00
		Slow water movement	1.00		
Aquepts, warm	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Flooding	1.00	Depth to saturated zone	1.00
		Too acid	0.77	Flooding	1.00
		Slow water movement	0.22	Too acid	0.77
Humaquepts, warm	15	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.96	Seepage	1.00
		Slow water movement	0.22	Too acid	0.96
W:					
Water	100	Not rated		Not rated	

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
1A:					
Brenner	85	Very limited		Very limited	
		Flooding	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Slow water movement	0.49
				Too acid	0.42
2A:					
Fluvaquents	60	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Flooding	1.00
		Slow water movement	1.00		
Histosols	35	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Flooding	1.00
		Slow water movement	1.00	Slow water movement	0.15
				Too acid	0.07
3A:					
Coquille	85	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Flooding	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Slow water movement	0.96
				Too acid	0.42
4D:					
Ginsberg	85	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
				Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00
				Slow water movement	0.26

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
4E:					
Ginsberg	60	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00
				Too acid	1.00
				Slow water movement	0.26
Klistan	20	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slow water movement	1.00		
				Too steep for sprinkler irrigation	1.00
				Too acid	1.00
				Depth to bedrock	0.88
5E:					
Ferrelo	90	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Too acid	0.03		
				Too steep for sprinkler irrigation	1.00
				Too acid	1.00
6D:					
Horseprairie	65	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
				Too acid	1.00
		Slope	1.00	Too steep for surface application	1.00
		Too acid	0.03		
				Too steep for sprinkler irrigation	1.00
Ferrelo	25	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
				Too acid	1.00
		Slope	1.00	Too steep for surface application	1.00
		Too acid	0.03		
				Too steep for sprinkler irrigation	1.00
7:					
Dune land	80	Very limited		Not rated	
		Slope	1.00		

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
8A:					
Depoe	85	Very limited		Very limited	
		Ponding	1.00	Filtering capacity	1.00
		Depth to saturated zone	1.00	Ponding	1.00
		Depth to cemented pan	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Depth to cemented pan	1.00
		Too acid	0.14	Too acid	1.00
9B:					
Waldport	85	Not limited		Very limited	
				Filtering capacity	1.00
				Too acid	0.85
9C:					
Waldport	85	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
				Too steep for surface application	1.00
				Too acid	0.85
				Too steep for sprinkler irrigation	0.22
9D:					
Waldport	85	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
				Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00
				Too acid	0.85
9E:					
Waldport	85	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
				Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00
				Too acid	0.85
10B:					
Waldport, thin surface	85	Not limited		Very limited	
				Filtering capacity	1.00
				Too acid	1.00

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
10C:					
Waldport, thin surface	90	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
				Too acid	1.00
				Too steep for surface application	1.00
				Too steep for sprinkler irrigation	0.50
10E:					
Waldport, thin surface	85	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
				Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00
				Too acid	1.00
11B:					
Netarts	85	Somewhat limited		Very limited	
		Slow water movement	0.32	Filtering capacity	1.00
		Too acid	0.31	Too acid	1.00
11C:					
Netarts	90	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Slow water movement	0.32	Too acid	1.00
		Too acid	0.31	Too steep for surface application	1.00
				Too steep for sprinkler irrigation	0.22
11D:					
Netarts	90	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Slow water movement	0.32	Too acid	1.00
		Too acid	0.31	Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
11E:					
Netarts	90	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Slow water movement	0.32	Too steep for surface application	1.00
		Too acid	0.31	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
12B:					
Yaquina	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Filtering capacity	1.00
		Slow water movement	0.32	Depth to saturated zone	1.00
		Too acid	0.03	Too acid	1.00
13B:					
Waldport, thin surface	70	Not limited		Very limited	
				Filtering capacity	1.00
				Too acid	1.00
Heceta	25	Very limited		Very limited	
		Depth to saturated zone	1.00	Filtering capacity	1.00
				Depth to saturated zone	1.00
				Too acid	1.00
14A:					
Heceta	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Filtering capacity	1.00
				Depth to saturated zone	1.00
				Too acid	1.00
15B:					
Netarts	50	Somewhat limited		Very limited	
		Slow water movement	0.32	Filtering capacity	1.00
		Too acid	0.31	Too acid	1.00
Yaquina	45	Very limited		Very limited	
		Depth to saturated zone	1.00	Filtering capacity	1.00
		Slow water movement	0.32	Depth to saturated zone	1.00
		Too acid	0.03	Too acid	1.00

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
16F:					
Caterl	45	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
		Cobble content	0.22	Too acid	1.00
				Depth to bedrock	0.18
Laderly	25	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	0.32	Too steep for surface application	1.00
		Cobble content	0.22	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
Murtip	20	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
				Depth to bedrock	0.42
17B:					
Chitwood	50	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slow water movement	0.96
		Too acid	0.14	Too acid	0.96
Hebo	35	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.14	Too acid	1.00
18B:					
Chitwood	80	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slow water movement	0.96
		Too acid	0.14	Too acid	0.96

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
18C:					
Chitwood	80	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Too steep for surface application	1.00
		Slope	1.00		
		Too acid	0.14	Slow water movement	0.96
				Too acid	0.96
				Too steep for sprinkler irrigation	0.94
19E:					
Klootchie	85	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00
				Too acid	1.00
20D:					
Klootchie	60	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
				Too acid	1.00
		Slope	1.00	Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00
Necanicum	25	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
				Too acid	1.00
		Slope	1.00	Too steep for surface application	1.00
		Cobble content	0.66		
		Stone content	0.26		
				Too steep for sprinkler irrigation	1.00
20E:					
Klootchie	55	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00
				Too acid	1.00

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
20E:					
Necanicum-----------	30	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Cobble content	0.66		
		Stone content	0.26	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
21F:					
Necanicum-----------	40	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Cobble content	0.66		
		Stone content	0.26	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
Ascar---------------	25	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Cobble content	1.00	Too steep for surface application	1.00
		Slow water movement	0.32		
				Too steep for sprinkler irrigation	1.00
				Too acid	1.00
Klootchie-----------	20	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00
				Too acid	1.00
22F:					
Ascar---------------	35	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Cobble content	1.00	Too steep for surface application	1.00
		Slow water movement	0.32		
				Too steep for sprinkler irrigation	1.00
				Too acid	1.00

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
22F:					
Necanicum	30	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Cobble content	0.66		
		Stone content	0.26	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
Rock outcrop	20	Not rated		Not rated	
23F:					
Rock outcrop	60	Not rated		Not rated	
Ascar	25	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Cobble content	1.00	Too steep for surface application	1.00
		Slow water movement	0.32		
				Too steep for sprinkler irrigation	1.00
				Too acid	1.00
24C:					
Lebam	85	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
				Too acid	1.00
		Slope	0.88	Too steep for surface application	0.92
				Slow water movement	0.26
				Too steep for sprinkler irrigation	0.06
24D:					
Lebam	85	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
				Too acid	1.00
		Slope	1.00	Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00
				Slow water movement	0.26

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
25E:					
Lebam	60	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00
				Too acid	1.00
				Slow water movement	0.26
Necanicum	20	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Cobble content	0.66		
		Stone content	0.26	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
26F:					
Lebam	55	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00
				Too acid	1.00
				Slow water movement	0.26
Necanicum	25	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Cobble content	0.66		
		Stone content	0.26	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
28D:					
Templeton	60	Very limited		Very limited	
		Depth to bedrock	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too acid	1.00
		Slope	1.00	Too steep for surface application	1.00
		Too acid	0.21		
				Too steep for sprinkler irrigation	1.00

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
28D:					
Necanicum	25	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Cobble content	0.66	Too steep for surface application	1.00
		Stone content	0.26	Too steep for sprinkler irrigation	1.00
29D:					
Templeton	50	Very limited		Very limited	
		Depth to bedrock	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too acid	1.00
		Slope	1.00	Too steep for surface application	1.00
		Too acid	0.21	Too steep for sprinkler irrigation	1.00
Klootchie	35	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
				Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00
29E:					
Templeton	45	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
		Too acid	0.21	Too acid	1.00
Klootchie	40	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00
				Too acid	1.00

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
30D:					
Templeton-----------	85	Very limited		Very limited	
		Depth to bedrock	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too acid	1.00
		Slope	1.00	Too steep for surface application	1.00
		Too acid	0.21	Too steep for sprinkler irrigation	1.00
30E:					
Templeton-----------	60	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
		Too acid	0.21	Too acid	1.00
Ecola---------------	20	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Too acid	0.03	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
30F:					
Templeton-----------	45	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
		Too acid	0.21	Too acid	1.00
Ecola---------------	40	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Too acid	0.03	Too steep for sprinkler irrigation	1.00
				Too acid	1.00

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
31D:					
Tolovana	45	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.31	Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00
				Slow water movement	0.26
Templeton	40	Very limited		Very limited	
		Depth to bedrock	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too acid	1.00
		Slope	1.00	Too steep for surface application	1.00
		Too acid	0.21	Too steep for sprinkler irrigation	1.00
31E:					
Tolovana	50	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Too acid	0.31	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
				Slow water movement	0.26
Templeton	25	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
		Too acid	0.21	Too acid	1.00
32D:					
Munsoncreek	65	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Too acid	1.00
		Slope	1.00	Too steep for surface application	1.00
		Too acid	0.03	Too steep for sprinkler irrigation	1.00
				Slow water movement	0.26

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
32D:					
Flowerpot-----------	20	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.55	Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00
32E:					
Munsoncreek---------	65	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Too acid	0.03	Too acid	1.00
				Slow water movement	0.26
Templeton-----------	20	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
		Too acid	0.21	Too acid	1.00
33D:					
Tolovana------------	85	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.31	Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00
				Slow water movement	0.26
37D:					
Templeton-----------	45	Very limited		Very limited	
		Depth to bedrock	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too acid	1.00
		Slope	1.00	Too steep for surface application	1.00
		Too acid	0.21	Too steep for sprinkler irrigation	1.00

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
37D:					
Skipanon------------	30	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
				Too acid	1.00
		Slope	1.00	Too steep for surface application	1.00
		Too acid	0.14		
				Too steep for sprinkler irrigation	1.00
37E:					
Templeton-----------	55	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slow water movement	1.00		
		Too acid	0.21	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
Skipanon------------	30	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Too acid	0.14		
				Too steep for sprinkler irrigation	1.00
				Too acid	1.00
38E:					
Templeton-----------	50	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slow water movement	1.00		
		Too acid	0.21	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
Necanicum-----------	35	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Cobble content	0.66		
		Stone content	0.26	Too steep for sprinkler irrigation	1.00
				Too acid	1.00

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
43F:					
Klistan	35	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
				Depth to bedrock	0.88
Harslow	30	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Cobble content	0.14	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
Hemcross	25	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00
				Too acid	1.00
44E:					
Klistan	35	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
				Depth to bedrock	0.88
Harslow	30	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Cobble content	0.14	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
Rock outcrop	20	Not rated		Not rated	

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
44F:					
Harslow	35	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Cobble content	0.14		
				Too steep for sprinkler irrigation	1.00
				Too acid	1.00
Klistan	30	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slow water movement	1.00		
				Too steep for sprinkler irrigation	1.00
				Too acid	1.00
				Depth to bedrock	0.88
Rock outcrop	20	Not rated		Not rated	
45B:					
Hebo	80	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.14	Too acid	1.00
48D:					
Hemcross	60	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
				Too acid	1.00
		Slope	1.00	Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00
Klistan	25	Very limited		Very limited	
		Depth to bedrock	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too acid	1.00
				Too steep for surface application	1.00
		Slope	1.00		
				Too steep for sprinkler irrigation	1.00
				Depth to bedrock	0.88

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
48E:					
Hemcross	50	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00
				Too acid	1.00
Klistan	35	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
				Depth to bedrock	0.88
50B:					
Walluski	80	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
		Depth to saturated zone	1.00	Too acid	1.00
				Depth to saturated zone	0.95
				Slow water movement	0.15
51B:					
Walluski	45	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
		Depth to saturated zone	1.00	Too acid	1.00
				Depth to saturated zone	0.95
				Slow water movement	0.15
Chitwood	40	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slow water movement	0.96
		Too acid	0.14	Too acid	0.96
51C:					
Walluski	45	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
		Depth to saturated zone	1.00	Too acid	1.00
		Slope	1.00	Too steep for surface application	1.00
				Depth to saturated zone	0.95
				Too steep for sprinkler irrigation	0.50

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
51C:					
Chitwood	30	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Too steep for surface application	1.00
		Slope	1.00		
		Too acid	0.14	Slow water movement	0.96
				Too acid	0.96
				Too steep for sprinkler irrigation	0.50
54B:					
Knappa	85	Very limited		Very limited	
		Slow water movement	1.00	Too acid	1.00
		Too acid	0.14		
55A:					
Histosols	55	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Flooding	1.00
		Slow water movement	1.00	Slow water movement	0.15
				Too acid	0.07
Water	45	Not rated		Not rated	
56B:					
Wolfer	80	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
				Too acid	0.42
56C:					
Wolfer	85	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
		Slope	1.00	Too steep for surface application	1.00
				Too steep for sprinkler irrigation	0.50
				Too acid	0.42
57B:					
Condorbridge	85	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
				Too acid	0.85
				Slow water movement	0.26

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
57C:					
Condorbridge	80	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
		Slope	1.00	Too steep for surface application	1.00
				Too acid	0.85
				Slow water movement	0.26
				Too steep for sprinkler irrigation	0.22
58C:					
Knappa	85	Very limited		Very limited	
		Slow water movement	1.00	Too acid	1.00
		Slope	1.00	Too steep for surface application	1.00
		Too acid	0.14	Too steep for sprinkler irrigation	0.50
59B:					
Chitwood	45	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slow water movement	0.96
		Too acid	0.14	Too acid	0.96
Knappa	40	Very limited		Very limited	
		Slow water movement	1.00	Too acid	1.00
		Too acid	0.14		
60E:					
Caterl	35	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slow water movement	1.00		
		Cobble content	0.22	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
				Depth to bedrock	0.18
Laderly	30	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	0.32	Too steep for surface application	1.00
		Cobble content	0.22		
				Too steep for sprinkler irrigation	1.00
				Too acid	1.00
Rock outcrop	25	Not rated		Not rated	

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
60F:					
Laderly	35	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	0.32	Too steep for surface application	1.00
		Cobble content	0.22	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
Caterl	30	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
		Cobble content	0.22	Too acid	1.00
				Depth to bedrock	0.18
Rock outcrop	20	Not rated		Not rated	
61F:					
Laderly, south slopes	40	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	0.32	Too steep for surface application	1.00
		Cobble content	0.22	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
Rock outcrop, south slopes	25	Not rated		Not rated	
Caterl, south slopes	20	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
		Cobble content	0.22	Too acid	1.00
				Depth to bedrock	0.18
62F:					
Rock outcrop	60	Not rated		Not rated	

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
62F:					
Laderly	25	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	0.32	Too steep for surface application	1.00
		Cobble content	0.22	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
70D:					
Murtip	45	Very limited		Very limited	
		Depth to bedrock	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too acid	1.00
		Slope	1.00	Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00
				Depth to bedrock	0.42
Caterl	30	Very limited		Very limited	
		Depth to bedrock	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too acid	1.00
		Slope	1.00	Too steep for surface application	1.00
		Cobble content	0.22	Too steep for sprinkler irrigation	1.00
				Depth to bedrock	0.18
Laderly	15	Very limited		Very limited	
		Depth to bedrock	1.00	Filtering capacity	1.00
		Slope	1.00	Depth to bedrock	1.00
		Slow water movement	0.32	Too acid	1.00
		Cobble content	0.22	Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00
70E:					
Murtip	40	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
				Depth to bedrock	0.42

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
70E:					
Caterl	30	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
		Cobble content	0.22	Too acid	1.00
				Depth to bedrock	0.18
Laderly	15	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	0.32	Too steep for surface application	1.00
		Cobble content	0.22	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
71D:					
McMille	50	Very limited		Very limited	
		Depth to bedrock	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too acid	1.00
		Slope	1.00	Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00
				Depth to bedrock	0.84
Mutt	35	Very limited		Very limited	
		Depth to bedrock	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Depth to bedrock	1.00
		Slope	1.00	Too acid	1.00
				Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00
72D:					
Caterl, clayey	60	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Too acid	1.00
		Slope	1.00	Too steep for surface application	1.00
		Cobble content	1.00	Too steep for sprinkler irrigation	1.00
				Depth to bedrock	0.18

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
72D:					
Murtip, clayey	20	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
				Too acid	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slope	1.00		
		Cobble content	0.75		
				Too steep for sprinkler irrigation	1.00
				Depth to bedrock	0.42
73A:					
Nehalem, frequent flooding	75	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Slow water movement	1.00	Too acid	0.42
74A:					
Nehalem, occasional flooding	80	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Slow water movement	1.00	Too acid	0.42
76A:					
Nestucca	90	Very limited		Very limited	
		Flooding	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00		
				Flooding	1.00
		Depth to saturated zone	1.00	Too acid	0.96
				Slow water movement	0.49
		Too acid	0.03		
77A:					
Nestucca	55	Very limited		Very limited	
		Flooding	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00		
				Flooding	1.00
		Depth to saturated zone	1.00	Too acid	0.96
				Slow water movement	0.49
		Too acid	0.03		
Brenner	40	Very limited		Very limited	
		Flooding	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00		
				Flooding	1.00
		Depth to saturated zone	1.00	Slow water movement	0.49
				Too acid	0.42
80B:					
Quillamook	80	Very limited		Somewhat limited	
		Slow water movement	1.00	Too acid	0.67
		Too acid	0.03		

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
81B:					
Quillamook, gravelly substratum	60	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
				Too acid	0.67
		Too acid	0.03		
Quillamook----------	25	Very limited		Somewhat limited	
		Slow water movement	1.00	Too acid	0.67
		Too acid	0.03		
81C:					
Quillamook, gravelly substratum	60	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
				Too steep for surface application	1.00
		Slope	1.00		
		Too acid	0.03		
				Too acid	0.67
				Too steep for sprinkler irrigation	0.50
Quillamook----------	25	Very limited		Very limited	
		Slow water movement	1.00	Too steep for surface application	1.00
		Slope	1.00		
		Too acid	0.03	Too acid	0.67
				Too steep for sprinkler irrigation	0.50
89A:					
Udifluvents---------	40	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Slow water movement	0.32	Too acid	0.96
Riverwash-----------	30	Not rated		Not rated	
Water---------------	25	Not rated		Not rated	
90A:					
Yachats-------------	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Slow water movement	1.00	Too acid	0.21
91A:					
Gauldy--------------	85	Very limited		Very limited	
		Flooding	1.00	Filtering capacity	1.00
		Slow water movement	0.78	Flooding	1.00
				Too acid	0.96
		Too acid	0.03		

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
92A:					
Yachats	45	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Slow water movement	1.00	Too acid	0.21
Gauldy	40	Very limited		Very limited	
		Flooding	1.00	Filtering capacity	1.00
		Slow water movement	0.78	Flooding	1.00
		Too acid	0.03	Too acid	0.96
93B:					
Gauldy, occasional flooding	50	Somewhat limited		Very limited	
		Slow water movement	0.78	Filtering capacity	1.00
		Flooding	0.60	Too acid	0.96
		Too acid	0.03	Flooding	0.60
Gauldy, rare flooding	35	Somewhat limited		Very limited	
		Slow water movement	0.78	Filtering capacity	1.00
		Too acid	0.03	Too acid	0.96
94B:					
Ginger	35	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slow water movement	0.96
				Too acid	0.85
Quillamook	30	Very limited		Somewhat limited	
		Slow water movement	1.00	Too acid	0.67
		Too acid	0.03		
Urban land	30	Not rated		Not rated	
95B:					
Urban land	55	Not rated		Not rated	
Quillamook	30	Very limited		Somewhat limited	
		Slow water movement	1.00	Too acid	0.67
		Too acid	0.03		
96B:					
Ginger	40	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slow water movement	0.96
				Too acid	0.85

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
96B:					
Hebo	35	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.14	Too acid	1.00
99:					
Beaches	95	Not rated		Not rated	
100B:					
Urban land	65	Not rated		Not rated	
Udorthents	25	Somewhat limited		Somewhat limited	
		Slow water movement	0.22	Too acid	0.96
		Too acid	0.14		
101B:					
Urban land, flooded	65	Not rated		Not rated	
Udorthents, flooded	25	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	0.60	Too acid	0.96
		Slow water movement	0.22	Flooding	0.60
		Too acid	0.14		
102A:					
Fluvaquents, diked	60	Very limited		Very limited	
		Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Flooding	1.00
		Slow water movement	1.00		
Histosols, diked	35	Very limited		Very limited	
		Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Flooding	1.00
		Slow water movement	1.00	Slow water movement	0.15
				Too acid	0.07
103A:					
Coquille, diked	85	Very limited		Very limited	
		Flooding	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Too acid	1.00
				Slow water movement	0.96

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
104A:					
Coquille, protected	50	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Too acid	1.00
		Too acid	0.14	Slow water movement	0.96
Brenner, protected	30	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Too acid	1.00
		Too acid	0.14	Slow water movement	0.49
Nehalem, protected	15	Very limited		Very limited	
		Slow water movement	1.00	Too acid	1.00
		Too acid	0.14		
110F:					
Waldport, thin surface	85	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
				Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00
				Too acid	1.00
115A:					
Aquepts	85	Very limited		Very limited	
		Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Flooding	1.00
		Slow water movement	1.00	Too acid	0.96
				Slow water movement	0.15
116A:					
Aquepts, warm	85	Very limited		Very limited	
		Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Flooding	1.00
		Slow water movement	1.00	Too acid	0.67
				Slow water movement	0.15
118B:					
Oxyaquic Hapludands, flood plains	45	Very limited		Very limited	
		Depth to saturated zone	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too acid	1.00
		Flooding	0.60	Depth to saturated zone	0.99
				Flooding	0.60
				Slow water movement	0.15

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
118B:					
Alic Hapludands, terraces	30	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
		Cobble content	0.11	Too acid	1.00
		Stone content	0.02	Too steep for surface application	0.08
119B:					
Oxyaquic Fulvudands, flood plains	45	Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.98
		Slow water movement	1.00	Too acid	0.96
		Cobble content	0.97	Flooding	0.60
		Flooding	0.60		
Typic Fulvudands, terraces	30	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
				Too acid	1.00
				Too steep for surface application	0.08
120C:					
Alic Hapludands, terraces	60	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
		Slope	0.50	Too acid	1.00
		Cobble content	0.11	Too steep for surface application	0.68
		Stone content	0.02		
Alic Hapludands, fans	35	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
				Too steep for surface application	1.00
				Too steep for sprinkler irrigation	0.94
121D:					
Fendall	50	Very limited		Very limited	
		Slow water movement	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Too acid	1.00
		Slope	1.00	Too steep for surface application	1.00
		Too acid	0.14	Too steep for sprinkler irrigation	1.00
				Slow water movement	0.15

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
121D:					
Munsoncreek---------	30	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
				Too acid	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slope	1.00		
		Too acid	0.03		
				Too steep for sprinkler irrigation	1.00
				Slow water movement	0.26
125B:					
Siletz--------------	80	Very limited		Somewhat limited	
		Slow water movement	1.00	Too acid	0.85
				Slow water movement	0.15
		Too acid	0.21		
126B:					
Siletz, warm--------	80	Very limited		Somewhat limited	
		Slow water movement	1.00	Too acid	0.85
				Slow water movement	0.15
		Too acid	0.21		
127C:					
Condorbridge, warm--	80	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
				Too steep for surface application	1.00
		Slope	1.00		
				Too acid	0.85
				Slow water movement	0.26
				Too steep for sprinkler irrigation	0.22
128B:					
Siletz--------------	45	Very limited		Somewhat limited	
		Slow water movement	1.00	Too acid	0.85
				Slow water movement	0.15
		Too acid	0.21		
Wolfer--------------	40	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
				Too acid	0.42
144F:					
Harslow, south slopes-------------	40	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Cobble content	0.14		
				Too steep for sprinkler irrigation	1.00
				Too acid	1.00

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
144F:					
Rock outcrop, south slopes	30	Not rated		Not rated	
Klistan, south slopes	20	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
				Depth to bedrock	0.88
145F:					
Rock outcrop	60	Not rated		Not rated	
Harslow	25	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Cobble content	0.14	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
156F:					
Sevencedars	55	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Cobble content	0.04	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
Newanna	30	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Cobble content	1.00	Too steep for sprinkler irrigation	1.00
				Too acid	1.00

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
157D:					
Caterl, till substratum	80	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
		Cobble content	1.00	Too acid	1.00
		Slope	1.00	Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00
157E:					
Caterl, till substratum	80	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Cobble content	1.00	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
157F:					
Caterl, till substratum	80	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Cobble content	1.00	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
158D:					
Sevencedars, till substratum	80	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Cobble content	0.34	Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00
158E:					
Sevencedars, till substratum	80	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Cobble content	0.34	Too steep for sprinkler irrigation	1.00
				Too acid	1.00

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
158F:					
Sevencedars, till substratum	85	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Cobble content	0.34	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
159D:					
Sevencedars, clayey	85	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Cobble content	1.00	Too steep for surface application	1.00
		Stone content	0.46	Too steep for sprinkler irrigation	1.00
				Large stones on surface	0.32
161D:					
Sevencedars	35	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Cobble content	0.04	Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00
Newanna	30	Very limited		Very limited	
		Depth to bedrock	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Depth to bedrock	1.00
		Slope	1.00	Too acid	1.00
		Cobble content	1.00	Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00
Woodspoint	25	Very limited		Very limited	
		Depth to bedrock	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too acid	1.00
		Slope	1.00	Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00
				Depth to bedrock	0.54

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
161E:					
Sevencedars	50	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Cobble content	0.04	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
Newanna	20	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Cobble content	1.00	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
Woodspoint	20	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
				Depth to bedrock	0.54
161F:					
Newanna	35	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Cobble content	1.00	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
Sevencedars	35	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Cobble content	0.04	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
Rock outcrop	20	Not rated		Not rated	

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
162D:					
Mosscreek-----------	50	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
				Too acid	1.00
		Slope	1.00	Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00
Fawceter------------	40	Very limited		Very limited	
		Depth to bedrock	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too acid	1.00
				Too steep for surface application	1.00
		Slope	1.00		
		Cobble content	0.42		
				Too steep for sprinkler irrigation	1.00
				Depth to bedrock	0.02
162E:					
Mosscreek-----------	50	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00
				Too acid	1.00
Fawceter------------	45	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slow water movement	1.00		
		Cobble content	0.42	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
				Depth to bedrock	0.02
163F:					
Fawceter------------	40	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slow water movement	1.00		
		Cobble content	0.42	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
				Depth to bedrock	0.02

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
163F:					
Killam	25	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	0.32	Too steep for surface application	1.00
		Stone content	0.06	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
Mosscreek	20	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00
				Too acid	1.00
164F:					
Killam	35	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	0.32	Too steep for surface application	1.00
		Stone content	0.06	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
Fawceter	30	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
		Cobble content	0.42	Too acid	1.00
				Depth to bedrock	0.02
Rock outcrop	20	Not rated		Not rated	
166F:					
Rock outcrop	60	Not rated		Not rated	
Killam	25	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	0.32	Too steep for surface application	1.00
		Stone content	0.06	Too steep for sprinkler irrigation	1.00
				Too acid	1.00

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
170A:					
Logsden	85	Very limited		Somewhat limited	
		Slow water movement	1.00	Too acid	0.91
		Too acid	0.03		
170B:					
Logsden	50	Very limited		Somewhat limited	
		Slow water movement	1.00	Too acid	0.91
		Too acid	0.03		
Nehalem, occasional flooding	40	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Slow water movement	1.00	Too acid	0.42
173B:					
Tillamook	45	Very limited		Very limited	
		Slow water movement	1.00	Too acid	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Too acid	0.14	Slow water movement	0.15
Ginger	40	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slow water movement	0.96
				Too acid	0.85
173C:					
Tillamook	45	Very limited		Very limited	
		Slow water movement	1.00	Too acid	1.00
		Depth to saturated zone	1.00	Too steep for surface application	1.00
		Slope	1.00	Depth to saturated zone	0.99
		Too acid	0.14	Too steep for sprinkler irrigation	0.50
				Slow water movement	0.15
Ginger	40	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Too steep for surface application	1.00
		Slope	1.00	Slow water movement	0.96
				Too acid	0.85
				Too steep for sprinkler irrigation	0.50

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
174C:					
Typic Fulvudands, terraces	60	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
				Too acid	1.00
		Slope	0.50	Too steep for surface application	0.68
Typic Fulvudands, fans	35	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
				Too acid	1.00
		Slope	1.00	Too steep for surface application	1.00
				Too steep for sprinkler irrigation	0.94
175D:					
Astoria	80	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
				Too acid	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slope	1.00		
		Too acid	0.31		
				Too steep for sprinkler irrigation	1.00
				Slow water movement	0.60
176D:					
Preacher	65	Very limited		Very limited	
		Depth to bedrock	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too acid	1.00
				Too steep for surface application	1.00
		Slope	1.00		
		Too acid	0.31		
				Too steep for sprinkler irrigation	1.00
				Depth to bedrock	0.26
Bohannon	20	Very limited		Very limited	
		Depth to bedrock	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Depth to bedrock	1.00
				Too acid	1.00
		Slope	1.00	Too steep for surface application	1.00
		Too acid	0.31		
				Too steep for sprinkler irrigation	1.00

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
176E:					
Preacher	55	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
		Too acid	0.31	Too acid	1.00
				Depth to bedrock	0.26
Bohannon	30	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Too acid	0.31	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
177B:					
Dystrudepts	65	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.31	Too acid	1.00
				Slow water movement	0.98
Aquepts	30	Very limited		Very limited	
		Flooding	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Too acid	0.77
				Slow water movement	0.15
178B:					
Fluventic Humic Dystrudepts	45	Very limited		Very limited	
		Flooding	1.00	Filtering capacity	1.00
		Depth to saturated zone	1.00	Flooding	1.00
		Slow water movement	1.00	Too acid	1.00
		Cobble content	0.07	Depth to saturated zone	0.53
Dystrudepts	25	Very limited		Somewhat limited	
		Slow water movement	1.00	Too acid	0.99

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
178B:					
Aquepts	20	Very limited		Very limited	
		Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Flooding	1.00
		Slow water movement	1.00	Too acid	0.96
				Slow water movement	0.15
180D:					
Salander	85	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.14	Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00
180E:					
Salander	60	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Too acid	0.14	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
Necanicum	25	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Cobble content	0.66	Too steep for sprinkler irrigation	1.00
		Stone content	0.26	Too acid	1.00
180F:					
Salander	50	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Too acid	0.14	Too steep for sprinkler irrigation	1.00
				Too acid	1.00

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
180F:					
Necanicum	20	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Cobble content	0.66	Too steep for sprinkler irrigation	1.00
		Stone content	0.26	Too acid	1.00
Neskowin	15	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Too acid	0.14	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
181E:					
Neskowin	60	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Too acid	0.14	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
Salander	25	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Too acid	0.14	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
181F:					
Neskowin	35	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Too acid	0.14	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
Rock outcrop	30	Not rated		Not rated	

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
181F:					
Necanicum	20	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Cobble content	0.66	Too steep for sprinkler irrigation	1.00
		Stone content	0.26	Too acid	1.00
182D:					
Neotsu	60	Very limited		Very limited	
		Depth to bedrock	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Depth to bedrock	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.21	Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00
Salander	30	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.14	Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00
183D:					
Winema	55	Very limited		Very limited	
		Slow water movement	1.00	Too acid	1.00
		Slope	1.00	Too steep for surface application	1.00
		Too acid	0.14	Too steep for sprinkler irrigation	1.00
				Slow water movement	0.15
Fendall	30	Very limited		Very limited	
		Slow water movement	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Too acid	1.00
		Slope	1.00	Too steep for surface application	1.00
		Too acid	0.14	Too steep for sprinkler irrigation	1.00
				Slow water movement	0.15

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
185F:					
Udorthents, steep	50	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Too acid	0.55	Too steep for surface application	1.00
		Slow water movement	0.22	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
Rock outcrop	30	Not rated		Not rated	
190D:					
Mulkey	85	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Too acid	1.00
		Slow water movement	0.78	Too steep for surface application	1.00
		Cobble content	0.17	Too steep for sprinkler irrigation	1.00
191B:					
Siletz	40	Very limited		Somewhat limited	
		Slow water movement	1.00	Too acid	0.85
		Too acid	0.21	Slow water movement	0.15
Euchre	35	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Too acid	1.00
		Too acid	0.55	Slow water movement	0.15
192A:					
Yachats, occasional flooding	85	Very limited		Somewhat limited	
		Slow water movement	1.00	Flooding	0.60
		Flooding	0.60	Too acid	0.21
303F:					
Ascar	50	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Cobble content	1.00	Too steep for surface application	1.00
		Slow water movement	0.32	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
Rock outcrop	40	Not rated		Not rated	

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
307F:					
Braun	45	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00
				Too acid	1.00
Scaponia	35	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
				Depth to bedrock	0.84
309D:					
Caterl	45	Very limited		Very limited	
		Depth to bedrock	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too acid	1.00
		Slope	1.00	Too steep for surface application	1.00
		Cobble content	0.22	Too steep for sprinkler irrigation	1.00
				Depth to bedrock	0.18
Laderly	35	Very limited		Very limited	
		Depth to bedrock	1.00	Filtering capacity	1.00
		Slope	1.00	Depth to bedrock	1.00
		Slow water movement	0.32	Too acid	1.00
		Cobble content	0.22	Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00
309E:					
Caterl	40	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
		Cobble content	0.22	Too acid	1.00
				Depth to bedrock	0.18

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
309E:					
Laderly	35	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	0.32	Too steep for surface application	1.00
		Cobble content	0.22	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
314A:					
Croquib	85	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.42	Too acid	1.00
322F:					
Harslow	50	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Cobble content	0.14	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
Kilchis	35	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Cobble content	0.88	Too steep for surface application	1.00
		Slow water movement	0.32	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
327:					
Dystrudepts, steep	95	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00
				Too acid	1.00

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
328:					
Dystrudepts	45	Very limited		Very limited	
		Slow water movement	1.00	Too steep for surface application	1.00
		Slope	1.00	Too acid	0.99
				Too steep for sprinkler irrigation	0.78
Humaquepts, isomesic	40	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Too acid	0.96
				Slow water movement	0.15
329F:					
Kilchis	45	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Cobble content	0.88	Too steep for surface application	1.00
		Slow water movement	0.32	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
Rock outcrop	35	Not rated		Not rated	
338F:					
Laderly	40	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	0.32	Too steep for surface application	1.00
		Cobble content	0.22	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
Rock outcrop	35	Not rated		Not rated	
342D:					
McMille	85	Very limited		Very limited	
		Depth to bedrock	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too acid	1.00
		Slope	1.00	Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00
				Depth to bedrock	0.84

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
345A:					
Mues	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Too acid	1.00
		Slow water movement	1.00	Depth to saturated zone	0.99
346D:					
Murtip	75	Very limited		Very limited	
		Depth to bedrock	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too acid	1.00
		Slope	1.00	Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00
				Depth to bedrock	0.42
347E:					
Murtip	45	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
				Depth to bedrock	0.42
Caterl	35	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
		Cobble content	0.22	Too acid	1.00
				Depth to bedrock	0.18
350E:					
Necanicum	45	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Cobble content	0.66	Too steep for sprinkler irrigation	1.00
		Stone content	0.26	Too acid	1.00

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
350E:					
Ascar	30	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Cobble content	1.00	Too steep for surface application	1.00
		Slow water movement	0.32	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
356D:					
Rinearson	85	Very limited		Very limited	
		Depth to bedrock	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too acid	1.00
		Slope	1.00	Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00
				Depth to bedrock	0.26
357E:					
Scaponia	50	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
				Depth to bedrock	0.84
Braun	35	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00
				Too acid	1.00
358D:					
Skipanon	80	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.14	Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
358E:					
Skipanon------------	80	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Too acid	0.14	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
359D:					
Svensen-------------	85	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Too acid	0.91	Too acid	1.00
		Slow water movement	0.32	Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00
359E:					
Svensen-------------	85	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Too acid	0.91	Too steep for surface application	1.00
		Slow water movement	0.32	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
363D:					
Tolke---------------	80	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
				Too acid	1.00
		Slope	1.00	Too steep for surface application	1.00
		Too acid	0.14		
				Too steep for sprinkler irrigation	1.00
371C:					
Walluski------------	85	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
				Too steep for surface application	1.00
		Depth to saturated zone	1.00		
		Slope	1.00	Too acid	1.00
				Depth to saturated zone	0.95
				Too steep for sprinkler irrigation	0.94

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
403E:					
Astoria	80	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Too acid	0.31	Too acid	1.00
				Slow water movement	0.60
420E:					
Hembre	85	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
		Too acid	0.03	Too acid	1.00
				Depth to bedrock	0.94
420F:					
Hembre	85	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
		Too acid	0.03	Too acid	1.00
				Depth to bedrock	0.94
425E:					
Klickitat	80	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
		Cobble content	1.00	Too acid	1.00
		Stone content	0.08	Depth to bedrock	0.96
433D:					
Melby	80	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Too acid	1.00
		Slope	1.00	Too steep for surface application	1.00
		Too acid	0.03	Too steep for sprinkler irrigation	1.00
				Depth to bedrock	0.71

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
433E:					
Melby	80	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
		Too acid	0.03	Too acid	1.00
				Depth to bedrock	0.71
439E:					
Tolke	70	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Too acid	0.14	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
501D:					
Apt	55	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.03	Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00
				Slow water movement	0.15
McDuff	30	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.03	Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00
501E:					
Apt	50	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Too acid	0.03	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
				Slow water movement	0.15

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
501E:					
McDuff	30	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Too acid	0.03	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
517A:					
Euchre	85	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Too acid	1.00
		Too acid	0.55	Slow water movement	0.15
519D:					
Fendall	50	Very limited		Very limited	
		Slope	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too acid	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Too acid	0.14	Too steep for sprinkler irrigation	1.00
				Slow water movement	0.15
Winema	30	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
		Too acid	0.14	Too acid	1.00
				Slow water movement	0.15
532D:					
Klootchie	45	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
		Slope	1.00	Too acid	1.00
				Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
532D:					
Neotsu	35	Very limited		Very limited	
		Depth to bedrock	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Depth to bedrock	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.21	Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00
532E:					
Klootchie	50	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
				Too steep for sprinkler irrigation	1.00
				Too acid	1.00
Neotsu	30	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Too acid	0.21	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
543F:					
Neotsu	40	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Too acid	0.21	Too steep for sprinkler irrigation	1.00
				Too acid	1.00
Necanicum	35	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Cobble content	0.66	Too steep for sprinkler irrigation	1.00
		Stone content	0.26	Too acid	1.00

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
552F:					
Reedsport	50	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Too acid	0.14		
				Too steep for sprinkler irrigation	1.00
				Too acid	1.00
Tolovana	30	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Too acid	0.31		
				Too steep for sprinkler irrigation	1.00
				Too acid	1.00
				Slow water movement	0.26
555D:					
Templeton	55	Very limited		Very limited	
		Depth to bedrock	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too acid	1.00
				Too steep for surface application	1.00
		Slope	1.00		
		Too acid	0.21		
				Too steep for sprinkler irrigation	1.00
Fendall	30	Very limited		Very limited	
		Slow water movement	1.00	Depth to bedrock	1.00
				Too acid	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Slope	1.00		
		Too acid	0.14		
				Too steep for sprinkler irrigation	1.00
				Slow water movement	0.15
556D:					
Tolovana	45	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
				Too acid	1.00
		Slope	1.00	Too steep for surface application	1.00
		Too acid	0.31		
				Too steep for sprinkler irrigation	1.00
				Slow water movement	0.26

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
556D:					
Reedsport	35	Very limited		Very limited	
		Depth to bedrock	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Depth to bedrock	1.00
				Too acid	1.00
		Slope	1.00	Too steep for surface application	1.00
		Too acid	0.14		
				Too steep for sprinkler irrigation	1.00
556E:					
Tolovana	50	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Too acid	0.31		
				Too steep for sprinkler irrigation	1.00
				Too acid	1.00
				Slow water movement	0.26
Reedsport	35	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too steep for surface application	1.00
		Too acid	0.14		
				Too steep for sprinkler irrigation	1.00
				Too acid	1.00
611B:					
Dystrudepts, warm	50	Very limited		Very limited	
		Slow water movement	1.00	Filtering capacity	1.00
				Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
				Too acid	1.00
		Too acid	0.31	Slow water movement	0.98
Aquepts, warm	30	Very limited		Very limited	
		Flooding	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00		
				Flooding	1.00
		Depth to saturated zone	1.00	Too acid	0.77
				Slow water movement	0.15
Humaquepts, warm	15	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Too acid	0.96
				Slow water movement	0.15

Table 23.--Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
W:					
Water	100	Not rated		Not rated	

Table 24.--Engineering Properties

(Absence of an entry indicates that data were not estimated. The asterisk '*' denotes the representative texture
textures follow.)

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage pass sieve number: 4	10	40
	In				Pct	Pct			
1A:									
Brenner---------	0-7	*Silt loam	*ML	*A-4	0	0	100	100	90-10
	7-12	*Silty clay loam, silt loam	*CL, CL-ML	*A-6, A-7, A-4	0	0	100	100	90-10
	12-18	*Silty clay loam, silt loam	*CL, CL-ML	*A-6, A-4, A-7	0	0	100	100	90-10
	18-26	*Silty clay loam, silt loam	*CL, CL-ML	*A-6, A-4, A-7	0	0	100	100	90-10
	26-40	*Silty clay loam, silt loam	*CL, MH, CL-ML	*A-6, A-4, A-7	0	0	100	100	90-10
	40-55	*Silty clay, silty clay loam	*CL, MH	*A-7, A-6	0	0	100	100	95-10
	55-60	*Silty clay, silty clay loam	*CL, MH	*A-7, A-6	0	0	100	100	95-10
2A:									
Fluvaquents-----	0-4	*Mucky silt loam, silt loam	*MH, ML, OH, MH	*A-7, A-4, A-5, A-6	0	0	100	100	90-10
	4-7	*Mucky silt loam, silt loam	*MH, ML, OH, MH	*A-7, A-6, A-5, A-4	0	0	100	100	90-10
	7-22	*Silt loam, mucky silt loam, silty clay loam, mucky silty clay loam	*MH, ML, CL, OH	*A-7, A-6, A-5, A-4	0	0	90-100	85-100	80-10
	22-25	*Sandy loam, silty clay loam, mucky silty clay loam, mucky silt loam, silt loam	*SM, MH, ML, OH, CL	*A-4, A-7, A-6, A-5	0	0	90-100	85-100	55-10
	25-45	*Loam, silty clay loam, mucky silty clay loam, mucky silt loam, silt loam	*ML, MH, OH	*A-4, A-5, A-6, A-7	0	0	90-100	85-100	70-10
	45-60	*Very gravelly sandy loam, mucky silty clay loam, fine sandy loam, silty clay loam, mucky silt loam, silt loam	*GM, CL, ML, MH, SM, OH	*A-1, A-6, A-7, A-4, A-5	0	0	35-100	30-100	20-10

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
2A:									
Histosols-------	0-7	*Mucky peat	*PT	*A-8	0	0	100	100	90-10
	7-13	*Muck	*PT	*A-8	0	0	100	100	90-10
	13-20	*Muck	*PT	*A-8	0	0	100	100	90-10
	20-32	*Mucky silt loam, mucky silty clay loam, fine sandy loam, silt loam, silty clay loam	*OL, OH, SM, ML, MH	*A-4, A-5, A-6, A-7	0	0	100	100	70-10
	32-60	*Mucky silty clay loam, silty clay loam, fine sandy loam, mucky silt loam, silt loam	*CL, MH, ML, SM, OH	*A-4, A-7, A-6, A-5	0	0	100	100	70-10
3A:									
Coquille--------	0-6	*Silt loam	*ML, OL	*A-4	0	0	100	100	95-10
	6-14	*Silt loam, silty clay loam	*ML, OL	*A-4	0	0	100	100	95-10
	14-34	*Silty clay loam, silt loam	*ML, OL	*A-4	0	0	100	100	95-10
	34-49	*Silty clay loam, silt loam	*ML, OL	*A-4	0	0	100	100	95-10
	49-60	*Silty clay loam, silty clay, silt loam	*ML, OH	*A-6, A-7	0	0	100	100	95-10

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
4D:									
Ginsberg--------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-6	*Medial loam	*MH	*A-5	0	0-15	90-100	85-100	70-95
	6-19	*Medial loam, medial silt loam	*MH	*A-5	0	0-15	90-100	85-100	70-10
	19-36	*Clay loam, medial clay loam, medial silt loam, medial loam, medial silty clay loam, silty clay loam, silty clay, paragravelly medial loam, paragravelly medial silt loam, paragravelly clay loam	*MH	*A-7, A-5	0	0-15	90-100	85-100	75-10
	36-50	*Clay loam, silty clay loam, silty clay, paragravelly clay loam	*MH	*A-7	0	0-15	90-100	85-100	75-10
	50-63	*Clay loam, silty clay loam, silty clay, paragravelly clay loam	*MH	*A-7	0	0-15	90-100	85-100	75-10
4E:									
Ginsberg--------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-6	*Medial loam	*MH	*A-5	0	0-15	90-100	85-100	70-95
	6-19	*Medial loam, medial silt loam	*MH	*A-5	0	0-15	90-100	85-100	70-10
	19-36	*Clay loam, medial clay loam, medial silt loam, medial loam, medial silty clay loam, silty clay loam, silty clay, paragravelly medial loam, paragravelly medial silt loam, paragravelly clay loam	*MH	*A-7, A-5	0	0-15	90-100	85-100	75-10
	36-50	*Clay loam, silty clay loam, silty clay, paragravelly clay loam	*MH	*A-7	0	0-15	90-100	85-100	75-10
	50-63	*Clay loam, silty clay loam, silty clay, paragravelly clay loam	*MH	*A-7	0	0-15	90-100	85-100	75-10

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage pass sieve number 4	10	40
	In				Pct	Pct			
4E:									
Klistan---------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-7	*Very gravelly medial loam	*GM	*A-1, A-2	0	0-15	35-60	30-55	25-45
	7-14	*Very gravelly medial loam	*GM	*A-2, A-1	0	0-15	35-60	30-55	25-45
	14-26	*Very gravelly medial loam, extremely cobbly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-2, A-1	0	0-50	25-60	20-55	15-50
	26-36	*Extremely gravelly medial loam, extremely cobbly medial loam, very cobbly medial loam, very gravelly medial loam	*GM, GP-GM	*A-1, A-2	0	0-50	25-60	20-55	15-50
	36-44	*Extremely gravelly medial loam, very gravelly medial loam, very cobbly medial loam, extremely cobbly medial loam	*GM, GP-GM	*A-1, A-2	0	0-50	25-60	20-55	15-50
	44-48	*Unweathered bedrock	---	---	---	---	---	---	---
5E:									
Ferrelo---------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-19	*Loam	*CL-ML, ML	*A-4	0	0	100	100	85-95
	19-37	*Loam, fine sandy loam	*CL-ML, SC-SM, SM	*A-4	0	0	100	100	70-95
	37-55	*Loamy fine sand, fine sand	*SM, SC-SM	*A-4, A-2	0	0	100	100	65-90
	55-89	*Fine sand, loamy fine sand	*SM, SC-SM	*A-2, A-4	0	0	100	100	65-90

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number: 4	10	40
	In				*Pct*	*Pct*			
6D:									
Horseprairie----	0-2	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	2-11	*Medial loam	*MH, OH	*A-5	0	0	100	100	85-95
	11-28	*Loam	*CL	*A-4	0	0	100	100	85-95
	28-45	*Loam	*CL	*A-4	0	0	100	100	85-95
	45-62	*Loamy sand, sandy loam	*SM	*A-2, A-4, A-1	0	0	100	100	50-75
Ferrelo---------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-19	*Loam	*CL-ML, ML	*A-4	0	0	100	100	85-95
	19-37	*Loam, fine sandy loam	*CL-ML, SM, SC-SM	*A-4	0	0	100	100	70-95
	37-55	*Loamy fine sand, fine sand	*SM, SC-SM	*A-4, A-2	0	0	100	100	65-90
	55-89	*Fine sand, loamy fine sand	*SM, SC-SM	*A-2, A-4	0	0	100	100	65-90
7:									
Dune land-------	0-60	*Fine sand	*SP-SM, SP, SM	*A-2, A-3	0	0	100	100	60-80
8A:									
Depoe-----------	0-3	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	3-7	*Loam	*CL-ML, CL	*A-4	0	0	100	95-100	85-95
	7-17	*Silt loam, loam, sandy loam	*CL-ML, CL	*A-4	0	0	100	90-100	60-90
	17-31	*Cemented material	---	---	---	---	---	---	---
	31-60	*Sand, loamy sand	*SP-SM, SM	*A-3, A-2, A-1	0	0	100	95-100	50-75
9B:									
Waldport--------	0-2	*Fine sand	*SM	*A-2	0	0	100	100	65-80
	2-6	*Fine sand	*SM	*A-2	0	0	100	100	65-80
	6-18	*Fine sand	*SM	*A-2	0	0	100	100	65-80
	18-60	*Fine sand	*SM	*A-2	0	0	100	100	65-80
9C:									
Waldport--------	0-2	*Fine sand	*SM	*A-2	0	0	100	100	65-80
	2-6	*Fine sand	*SM	*A-2	0	0	100	100	65-80
	6-18	*Fine sand	*SM	*A-2	0	0	100	100	65-80
	18-60	*Fine sand	*SM	*A-2	0	0	100	100	65-80

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	10	40
	In				*Pct*	*Pct*			
9D:									
Waldport--------	0-2	*Fine sand	*SM	*A-2	0	0	100	100	65-80
	2-6	*Fine sand	*SM	*A-2	0	0	100	100	65-80
	6-18	*Fine sand	*SM	*A-2	0	0	100	100	65-80
	18-60	*Fine sand	*SM	*A-2	0	0	100	100	65-80
9E:									
Waldport--------	0-2	*Fine sand	*SM	*A-2	0	0	100	100	65-80
	2-6	*Fine sand	*SM	*A-2	0	0	100	100	65-80
	6-18	*Fine sand	*SM	*A-2	0	0	100	100	65-80
	18-60	*Fine sand	*SM	*A-2	0	0	100	100	65-80
10B:									
Waldport, thin surface--------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-3	*Fine sand	*SM	*A-2	0	0	100	100	65-80
	3-60	*Fine sand	*SM	*A-2	0	0	100	100	65-80
10C:									
Waldport, thin surface--------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-3	*Fine sand	*SM	*A-2	0	0	100	100	65-80
	3-60	*Fine sand	*SM	*A-2	0	0	100	100	65-80
10E:									
Waldport, thin surface--------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-3	*Fine sand	*SM	*A-2	0	0	100	100	65-80
	3-60	*Fine sand	*SM	*A-2	0	0	100	100	65-80

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				Pct	Pct			
11B:									
Netarts---------	0-2	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	2-5	*Fine sandy loam	*ML, SM	*A-4	0	0	100	100	70-85
	5-9	*Loamy fine sand, fine sand	*SM	*A-2, A-4	0	0	100	100	65-90
	9-15	*Loamy fine sand, fine sand	*SM	*A-2, A-4	0	0	100	100	65-90
	15-19	*Fine sand, loamy fine sand, sand	*SM, SP-SM	*A-2, A-1, A-4	0	0	100	100	50-90
	19-37	*Fine sand, sand, loamy fine sand	*SM, SP-SM	*A-2, A-4, A-1	0	0	100	100	50-90
	37-54	*Fine sand, sand, loamy fine sand	*SM, SP-SM	*A-2, A-4, A-1	0	0	100	100	50-90
	54-67	*Fine sand, sand	*SM, SP-SM	*A-2, A-1	0	0	100	100	50-80
11C:									
Netarts---------	0-2	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	2-5	*Fine sandy loam	*ML, SM	*A-4	0	0	100	100	70-85
	5-9	*Loamy fine sand, fine sand	*SM	*A-2, A-4	0	0	100	100	65-90
	9-15	*Loamy fine sand, fine sand	*SM	*A-2, A-4	0	0	100	100	65-90
	15-19	*Fine sand, loamy fine sand, sand	*SM, SP-SM	*A-2, A-1, A-4	0	0	100	100	50-90
	19-37	*Fine sand, sand, loamy fine sand	*SM, SP-SM	*A-2, A-4, A-1	0	0	100	100	50-90
	37-54	*Fine sand, sand, loamy fine sand	*SM, SP-SM	*A-2, A-4, A-1	0	0	100	100	50-90
	54-67	*Fine sand, sand	*SM, SP-SM	*A-2, A-1	0	0	100	100	50-80

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number: 4	10	40
	In				Pct	Pct			
11D:									
Netarts---------	0-2	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	2-5	*Fine sandy loam	*ML, SM	*A-4	0	0	100	100	70-85
	5-9	*Loamy fine sand, fine sand	*SM	*A-2, A-4	0	0	100	100	65-90
	9-15	*Loamy fine sand, fine sand	*SM	*A-2, A-4	0	0	100	100	65-90
	15-19	*Fine sand, loamy fine sand, sand	*SM, SP-SM	*A-2, A-1, A-4	0	0	100	100	50-90
	19-37	*Fine sand, sand, loamy fine sand	*SM, SP-SM	*A-2, A-4, A-1	0	0	100	100	50-90
	37-54	*Fine sand, sand, loamy fine sand	*SM, SP-SM	*A-2, A-4, A-1	0	0	100	100	50-90
	54-67	*Fine sand, sand	*SM, SP-SM	*A-2, A-1	0	0	100	100	50-80
11E:									
Netarts---------	0-2	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	2-5	*Fine sandy loam	*ML, SM	*A-4	0	0	100	100	70-85
	5-9	*Loamy fine sand, fine sand	*SM	*A-2, A-4	0	0	100	100	65-90
	9-15	*Loamy fine sand, fine sand	*SM	*A-2, A-4	0	0	100	100	65-90
	15-19	*Fine sand, loamy fine sand, sand	*SM, SP-SM	*A-2, A-1, A-4	0	0	100	100	50-90
	19-37	*Fine sand, sand, loamy fine sand	*SM, SP-SM	*A-2, A-4, A-1	0	0	100	100	50-90
	37-54	*Fine sand, sand, loamy fine sand	*SM, SP-SM	*A-2, A-4, A-1	0	0	100	100	50-90
	54-67	*Fine sand, sand	*SM, SP-SM	*A-2, A-1	0	0	100	100	50-80
12B:									
Yaquina---------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-7	*Loamy fine sand	*SM	*A-4, A-2	0	0	100	100	75-90
	7-15	*Fine sand	*SM	*A-2	0	0	100	100	65-80
	15-31	*Fine sand	*SM	*A-2	0	0	100	100	65-80
	31-61	*Fine sand, sand	*SM, SP-SM	*A-2, A-1	0	0	100	100	50-80

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	10	40
	In				Pct	Pct			
13B:									
Waldport, thin surface	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-3	*Fine sand	*SM	*A-2	0	0	100	100	65-80
	3-60	*Fine sand	*SM	*A-2	0	0	100	100	65-80
Heceta	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-6	*Fine sand	*SM	*A-2	0	0	100	100	65-80
	6-61	*Sand, fine sand, loamy sand	*SM, SP-SM	*A-2, A-3	0	0	100	100	50-80
14A:									
Heceta	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-6	*Fine sand	*SM	*A-2	0	0	100	100	65-80
	6-61	*Sand, fine sand, loamy sand	*SM, SP-SM	*A-2, A-3	0	0	100	100	50-80
15B:									
Netarts	0-2	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	2-5	*Fine sandy loam	*ML, SM	*A-4	0	0	100	100	70-85
	5-9	*Loamy fine sand, fine sand	*SM	*A-2, A-4	0	0	100	100	65-90
	9-15	*Loamy fine sand, fine sand	*SM	*A-2, A-4	0	0	100	100	65-90
	15-19	*Fine sand, loamy fine sand, sand	*SM, SP-SM	*A-2, A-1, A-4	0	0	100	100	50-90
	19-37	*Fine sand, sand, loamy fine sand	*SM, SP-SM	*A-2, A-4, A-1	0	0	100	100	50-90
	37-54	*Fine sand, sand, loamy fine sand	*SM, SP-SM	*A-2, A-4, A-1	0	0	100	100	50-90
	54-67	*Fine sand, sand	*SM, SP-SM	*A-2, A-1	0	0	100	100	50-80
Yaquina	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-7	*Loamy fine sand	*SM	*A-4, A-2	0	0	100	100	75-90
	7-15	*Fine sand	*SM	*A-2	0	0	100	100	65-80
	15-31	*Fine sand	*SM	*A-2	0	0	100	100	65-80
	31-61	*Fine sand, sand	*SM, SP-SM	*A-2, A-1	0	0	100	100	50-80

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
16F:									
Caterl----------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-6	*Gravelly medial loam	*GM	*A-5	0	0-15	60-80	55-75	45-65
	6-12	*Very gravelly medial loam, gravelly medial loam	*GM	*A-2, A-5	0	0-15	40-80	35-75	30-65
	12-18	*Very gravelly medial loam, gravelly medial loam	*GM	*A-2, A-5	0	0-15	40-80	35-75	30-65
	18-35	*Very gravelly medial loam, very cobbly medial loam, very gravelly medial clay loam, very cobbly medial clay loam	*GM	*A-1, A-5	0	0-45	40-70	35-65	30-60
	35-53	*Extremely cobbly medial loam, extremely gravelly medial loam	*GM, GP-GM	*A-1, A-2	0-15	0-45	20-45	15-40	15-35
	53-57	*Unweathered bedrock	---	---	---	---	---	---	---
Laderly---------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-13	*Very gravelly medial loam	*GM	*A-1, A-2	0	0-15	40-60	35-45	30-40
	13-22	*Very gravelly medial loam, extremely cobbly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-1, A-2	0	0-65	35-70	15-65	10-55
	22-30	*Extremely cobbly medial loam, extremely gravelly medial loam, very cobbly medial loam, very gravelly medial loam	*GM, GP-GM	*A-1, A-2	0-15	25-65	25-70	15-65	10-55
	30-34	*Unweathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	Percentage pass sieve number: 10	Percentage pass sieve number: 40
	In				*Pct*	*Pct*			
16F:									
Murtip----------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-7	*Medial loam	*OH, MH	*A-5	0	0	90-100	85-100	75-95
	7-14	*Medial loam	*MH	*A-5	0	0	90-100	85-100	75-95
	14-24	*Medial loam, paragravelly medial loam, medial clay loam, gravelly medial loam	*MH, GM	*A-5	0	0-10	60-100	55-100	45-90
	24-43	*Medial loam, paragravelly medial loam, gravelly medial loam, medial clay loam	*MH, GM	*A-5	0	0-10	60-100	55-100	45-90
	43-50	*Gravelly medial loam, gravelly medial clay loam, very gravelly medial loam, very gravelly medial clay loam	*SM, MH, GM, ML	*A-5, A-2	0	0-20	35-80	30-75	30-70
	50-60	*Weathered bedrock	---	---	---	---	---	---	---
17B:									
Chitwood--------	0-7	*Medial silt loam	*MH, OH	*A-5	0	0	100	100	90-10
	7-11	*Silt loam, medial silt loam	*MH	*A-5	0	0	100	100	90-10
	11-19	*Silty clay loam	*CL	*A-6	0	0	100	100	95-10
	19-29	*Silty clay, silty clay loam	*CL	*A-7, A-6	0	0	100	100	95-10
	29-60	*Silty clay loam, silty clay	*CL	*A-6, A-7	0	0	100	100	95-10
Hebo------------	0-4	*Silty clay loam	*CL	*A-6, A-7	0	0	100	100	95-10
	4-10	*Silty clay, silty clay loam	*CH, CL	*A-7	0	0	100	100	95-10
	10-18	*Clay, silty clay	*CH	*A-7	0	0	100	100	90-10
	18-26	*Clay, silty clay	*CH	*A-7	0	0	100	100	90-10
	26-35	*Silty clay, clay	*CH	*A-7	0	0	100	100	90-10
	35-60	*Clay loam, silty clay loam, silty clay	*CL, CH	*A-7	0	0	85-100	80-100	70-10

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
18B:									
Chitwood--------	0-7	*Medial silt loam	*MH, OH	*A-5	0	0	100	100	90-10
	7-11	*Silt loam, medial silt loam	*MH	*A-5	0	0	100	100	90-10
	11-19	*Silty clay loam	*CL	*A-6	0	0	100	100	95-10
	19-29	*Silty clay, silty clay loam	*CL	*A-7, A-6	0	0	100	100	95-10
	29-60	*Silty clay loam, silty clay	*CL	*A-6, A-7	0	0	100	100	95-10
18C:									
Chitwood--------	0-7	*Medial silt loam	*MH, OH	*A-5	0	0	100	100	90-10
	7-11	*Silt loam, medial silt loam	*MH	*A-5	0	0	100	100	90-10
	11-19	*Silty clay loam	*CL	*A-6	0	0	100	100	95-10
	19-29	*Silty clay, silty clay loam	*CL	*A-7, A-6	0	0	100	100	95-10
	29-60	*Silty clay loam, silty clay	*CL	*A-6, A-7	0	0	100	100	95-10
19E:									
Klootchie-------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-9	*Medial silt loam	*OH, MH	*A-5	0	0-10	90-100	85-100	75-10
	9-19	*Medial silt loam, medial loam	*MH	*A-5	0	0-10	90-100	85-100	70-10
	19-44	*Medial silty clay loam, gravelly medial silt loam, gravelly medial clay loam, gravelly medial silty clay loam, gravelly medial loam, medial loam, medial silt loam, medial clay loam	*MH, GM	*A-5	0	0-15	65-100	60-100	50-10
	44-68	*Medial silty clay loam, gravelly medial silt loam, gravelly medial clay loam, gravelly medial silty clay loam, gravelly medial loam, medial loam, medial silt loam, medial clay loam	*MH, GM	*A-5	0	0-15	65-100	60-100	50-10

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage pass[ing] sieve number 4	10	40
	In				Pct	Pct			
20D:									
Klootchie-------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-9	*Medial silt loam	*OH, MH	*A-5	0	0-10	90-100	85-100	75-10
	9-19	*Medial silt loam, medial loam	*MH	*A-5	0	0-10	90-100	85-100	70-10
	19-44	*Medial silty clay loam, gravelly medial silt loam, gravelly medial clay loam, gravelly medial silty clay loam, gravelly medial loam, medial loam, medial silt loam, medial clay loam	*MH, GM	*A-5	0	0-15	65-100	60-100	50-10
	44-68	*Medial silty clay loam, gravelly medial silt loam, gravelly medial clay loam, gravelly medial silty clay loam, gravelly medial loam, medial loam, medial silt loam, medial clay loam	*MH, GM	*A-5	0	0-15	65-100	60-100	50-10

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
20D:									
Necanicum-------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-10	*Very gravelly medial loam	*GM	*A-2, A-1	0-10	0-15	35-60	30-50	25-45
	10-18	*Very gravelly medial loam	*GM	*A-2, A-1	0-10	0-15	35-60	30-50	25-45
	18-27	*Very gravelly medial loam, extremely cobbly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-2, A-1, A-5	0-15	0-65	20-65	15-60	10-55
	27-49	*Extremely cobbly medial loam, very gravelly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-1, A-5, A-2	0-15	0-65	20-65	15-60	10-55
	49-71	*Extremely cobbly medial loam, very gravelly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-1, A-5, A-2	0-15	0-65	20-65	15-60	10-55

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
20E:									
Klootchie-------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-9	*Medial silt loam	*OH, MH	*A-5	0	0-10	90-100	85-100	75-10
	9-19	*Medial silt loam, medial loam	*MH	*A-5	0	0-10	90-100	85-100	70-10
	19-44	*Medial silty clay loam, gravelly medial silt loam, gravelly medial clay loam, gravelly medial silty clay loam, gravelly medial loam, medial loam, medial silt loam, medial clay loam	*MH, GM	*A-5	0	0-15	65-100	60-100	50-10
	44-68	*Medial silty clay loam, gravelly medial silt loam, gravelly medial clay loam, gravelly medial silty clay loam, gravelly medial loam, medial loam, medial silt loam, medial clay loam	*MH, GM	*A-5	0	0-15	65-100	60-100	50-10

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	Percentage pass sieve number: 10	Percentage pass sieve number: 40
	In				*Pct*	*Pct*			
20E:									
Necanicum-------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-10	*Very gravelly medial loam	*GM	*A-2, A-1	0-10	0-15	35-60	30-50	25-45
	10-18	*Very gravelly medial loam	*GM	*A-2, A-1	0-10	0-15	35-60	30-50	25-45
	18-27	*Very gravelly medial loam, extremely cobbly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-2, A-1, A-5	0-15	0-65	20-65	15-60	10-55
	27-49	*Extremely cobbly medial loam, very gravelly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-1, A-5, A-2	0-15	0-65	20-65	15-60	10-55
	49-71	*Extremely cobbly medial loam, very gravelly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-1, A-5, A-2	0-15	0-65	20-65	15-60	10-55

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
21F:									
Necanicum-------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-10	*Very gravelly medial loam	*GM	*A-2, A-1	0-10	0-15	35-60	30-50	25-45
	10-18	*Very gravelly medial loam	*GM	*A-2, A-1	0-10	0-15	35-60	30-50	25-45
	18-27	*Very gravelly medial loam, extremely cobbly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-2, A-1, A-5	0-15	0-65	20-65	15-60	10-55
	27-49	*Extremely cobbly medial loam, very gravelly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-1, A-5, A-2	0-15	0-65	20-65	15-60	10-55
	49-71	*Extremely cobbly medial loam, very gravelly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-1, A-5, A-2	0-15	0-65	20-65	15-60	10-55
Ascar-----------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-9	*Extremely gravelly medial loam	*GM, GP-GM	*A-1	0-10	10-25	15-35	10-30	10-25
	9-25	*Extremely cobbly medial loam, very cobbly medial loam, very gravelly medial loam, extremely gravelly medial loam	*GM, GP-GM	*A-1, A-2	0-10	10-45	25-60	15-50	15-45
	25-39	*Extremely cobbly medial loam, very cobbly medial loam, very gravelly medial loam, extremely gravelly medial loam	*GM, GP-GM	*A-1, A-2	0-10	15-55	25-60	15-50	15-45
	39-43	*Unweathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				Pct	Pct			
21F:									
Klootchie-------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-9	*Medial silt loam	*OH, MH	*A-5	0	0-10	90-100	85-100	75-10
	9-19	*Medial silt loam, medial loam	*MH	*A-5	0	0-10	90-100	85-100	70-10
	19-44	*Medial silty clay loam, gravelly medial silt loam, gravelly medial clay loam, gravelly medial silty clay loam, gravelly medial loam, medial loam, medial silt loam, medial clay loam	*MH, GM	*A-5	0	0-15	65-100	60-100	50-10
	44-68	*Medial silty clay loam, gravelly medial silt loam, gravelly medial clay loam, gravelly medial silty clay loam, gravelly medial loam, medial loam, medial silt loam, medial clay loam	*MH, GM	*A-5	0	0-15	65-100	60-100	50-10
22F:									
Ascar-----------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-9	*Extremely gravelly medial loam	*GM, GP-GM	*A-1	0-10	10-25	15-35	10-30	10-25
	9-25	*Extremely cobbly medial loam, very cobbly medial loam, very gravelly medial loam, extremely gravelly medial loam	*GM, GP-GM	*A-1, A-2	0-10	10-45	25-60	15-50	15-45
	25-39	*Extremely cobbly medial loam, very cobbly medial loam, very gravelly medial loam, extremely gravelly medial loam	*GM, GP-GM	*A-1, A-2	0-10	15-55	25-60	15-50	15-45
	39-43	*Unweathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
22F:									
Necanicum-------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-10	*Very gravelly medial loam	*GM	*A-2, A-1	0-10	0-15	35-60	30-50	25-45
	10-18	*Very gravelly medial loam	*GM	*A-2, A-1	0-10	0-15	35-60	30-50	25-45
	18-27	*Very gravelly medial loam, extremely cobbly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-2, A-1, A-5	0-15	0-65	20-65	15-60	10-55
	27-49	*Extremely cobbly medial loam, very gravelly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-1, A-5, A-2	0-15	0-65	20-65	15-60	10-55
	49-71	*Extremely cobbly medial loam, very gravelly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-1, A-5, A-2	0-15	0-65	20-65	15-60	10-55
Rock outcrop----	0-60	*Unweathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
23F:									
Rock outcrop----	0-60	*Unweathered bedrock	---	---	---	---	---	---	---
Ascar-----------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-9	*Extremely gravelly medial loam	*GM, GP-GM	*A-1	0-10	10-25	15-35	10-30	10-25
	9-25	*Extremely cobbly medial loam, very cobbly medial loam, very gravelly medial loam, extremely gravelly medial loam	*GM, GP-GM	*A-1, A-2	0-10	10-45	25-60	15-50	15-45
	25-39	*Extremely cobbly medial loam, very cobbly medial loam, very gravelly medial loam, extremely gravelly medial loam	*GM, GP-GM	*A-1, A-2	0-10	15-55	25-60	15-50	15-45
	39-43	*Unweathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	10	40
	In				*Pct*	*Pct*			
24C:									
Lebam-----------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-10	*Medial silt loam	*OH, MH	*A-5	0	0-15	90-100	85-100	75-10
	10-18	*Medial silt loam	*MH	*A-5	0	0-15	90-100	85-100	75-10
	18-44	*Silty clay loam, paragravelly silty clay loam	*MH	*A-7, A-5	0	0-15	90-100	85-100	80-10
	44-61	*Very paragravelly silty clay loam, very paragravelly clay loam, paragravelly silty clay loam, paragravelly silty clay, paragravelly clay loam, silty clay, clay loam, silty clay loam	*MH	*A-7	0	0-15	90-100	85-100	75-10
	61-76	*Very paragravelly silty clay loam, very paragravelly clay loam, paragravelly silty clay loam, paragravelly silty clay, paragravelly clay loam, silty clay, clay loam, silty clay loam	*MH	*A-7	0	0-15	90-100	85-100	75-10

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				Pct	Pct			
24D:									
Lebam-----------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-10	*Medial silt loam	*OH, MH	*A-5	0	0-15	90-100	85-100	75-10
	10-18	*Medial silt loam	*MH	*A-5	0	0-15	90-100	85-100	75-10
	18-44	*Silty clay loam, paragravelly silty clay loam	*MH	*A-7, A-5	0	0-15	90-100	85-100	80-10
	44-61	*Very paragravelly silty clay loam, very paragravelly clay loam, paragravelly silty clay loam, paragravelly silty clay, paragravelly clay loam, silty clay, clay loam, silty clay loam	*MH	*A-7	0	0-15	90-100	85-100	75-10
	61-76	*Very paragravelly silty clay loam, very paragravelly clay loam, paragravelly silty clay loam, paragravelly silty clay, paragravelly clay loam, silty clay, clay loam, silty clay loam	*MH	*A-7	0	0-15	90-100	85-100	75-10

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	10	40
	In				Pct	Pct			
25E:									
Lebam-----------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-10	*Medial silt loam	*OH, MH	*A-5	0	0-15	90-100	85-100	75-10
	10-18	*Medial silt loam	*MH	*A-5	0	0-15	90-100	85-100	75-10
	18-44	*Silty clay loam, paragravelly silty clay loam	*MH	*A-7, A-5	0	0-15	90-100	85-100	80-10
	44-61	*Very paragravelly silty clay loam, very paragravelly clay loam, paragravelly silty clay loam, paragravelly silty clay, paragravelly clay loam, silty clay, clay loam, silty clay loam	*MH	*A-7	0	0-15	90-100	85-100	75-10
	61-76	*Very paragravelly silty clay loam, very paragravelly clay loam, paragravelly silty clay loam, paragravelly silty clay, paragravelly clay loam, silty clay, clay loam, silty clay loam	*MH	*A-7	0	0-15	90-100	85-100	75-10

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	Percentage pass sieve number: 10	Percentage pass sieve number: 40
	In				*Pct*	*Pct*			
25E:									
Necanicum-------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-10	*Very gravelly medial loam	*GM	*A-2, A-1	0-10	0-15	35-60	30-50	25-45
	10-18	*Very gravelly medial loam	*GM	*A-2, A-1	0-10	0-15	35-60	30-50	25-45
	18-27	*Very gravelly medial loam, extremely cobbly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-2, A-1, A-5	0-15	0-65	20-65	15-60	10-55
	27-49	*Extremely cobbly medial loam, very gravelly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-1, A-5, A-2	0-15	0-65	20-65	15-60	10-55
	49-71	*Extremely cobbly medial loam, very gravelly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-1, A-5, A-2	0-15	0-65	20-65	15-60	10-55

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass[ing] sieve number[--]: 4	10	40
	In				Pct	Pct			
26F:									
Lebam-----------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-10	*Medial silt loam	*OH, MH	*A-5	0	0-15	90-100	85-100	75-10
	10-18	*Medial silt loam	*MH	*A-5	0	0-15	90-100	85-100	75-10
	18-44	*Silty clay loam, paragravelly silty clay loam	*MH	*A-7, A-5	0	0-15	90-100	85-100	80-10
	44-61	*Very paragravelly silty clay loam, very paragravelly clay loam, paragravelly silty clay loam, paragravelly silty clay, paragravelly clay loam, silty clay, clay loam, silty clay loam	*MH	*A-7	0	0-15	90-100	85-100	75-10
	61-76	*Very paragravelly silty clay loam, very paragravelly clay loam, paragravelly silty clay loam, paragravelly silty clay, paragravelly clay loam, silty clay, clay loam, silty clay loam	*MH	*A-7	0	0-15	90-100	85-100	75-10

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
26F:									
Necanicum-------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-10	*Very gravelly medial loam	*GM	*A-2, A-1	0-10	0-15	35-60	30-50	25-45
	10-18	*Very gravelly medial loam	*GM	*A-2, A-1	0-10	0-15	35-60	30-50	25-45
	18-27	*Very gravelly medial loam, extremely cobbly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-2, A-1, A-5	0-15	0-65	20-65	15-60	10-55
	27-49	*Extremely cobbly medial loam, very gravelly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-1, A-5, A-2	0-15	0-65	20-65	15-60	10-55
	49-71	*Extremely cobbly medial loam, very gravelly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-1, A-5, A-2	0-15	0-65	20-65	15-60	10-55

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number: 4	10	40
	In				*Pct*	*Pct*			
28D:									
Templeton-------	0-2	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	2-15	*Medial silt loam	*OL, ML	*A-5	0	0	95-100	90-100	85-10
	15-28	*Silty clay loam, silt loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	28-43	*Silty clay loam, paragravelly silt loam, paragravelly silty clay loam, very paragravelly silty clay loam, silt loam, very paragravelly silt loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	43-54	*Silty clay loam, very paragravelly silt loam, very paragravelly silty clay loam, silt loam, paragravelly silt loam, paragravelly silty clay loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	54-59	*Paragravelly silty clay loam, very paragravelly silt loam, very paragravelly silty clay loam, silty clay loam, paragravelly silt loam, silt loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	59-69	*Weathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	Percentage pass sieve number: 10	Percentage pass sieve number: 40
	In				*Pct*	*Pct*			
28D:									
Necanicum-------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-10	*Very gravelly medial loam	*GM	*A-2, A-1	0-10	0-15	35-60	30-50	25-45
	10-18	*Very gravelly medial loam	*GM	*A-2, A-1	0-10	0-15	35-60	30-50	25-45
	18-27	*Very gravelly medial loam, extremely cobbly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-2, A-1, A-5	0-15	0-65	20-65	15-60	10-55
	27-49	*Extremely cobbly medial loam, very gravelly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-1, A-5, A-2	0-15	0-65	20-65	15-60	10-55
	49-71	*Extremely cobbly medial loam, very gravelly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-1, A-5, A-2	0-15	0-65	20-65	15-60	10-55

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
29D:									
Templeton-------	0-2	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	2-15	*Medial silt loam	*OL, ML	*A-5	0	0	95-100	90-100	85-10
	15-28	*Silty clay loam, silt loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	28-43	*Silty clay loam, paragravelly silt loam, paragravelly silty clay loam, very paragravelly silty clay loam, silt loam, very paragravelly silt loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	43-54	*Silty clay loam, very paragravelly silt loam, very paragravelly silty clay loam, silt loam, paragravelly silt loam, paragravelly silty clay loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	54-59	*Paragravelly silty clay loam, very paragravelly silt loam, very paragravelly silty clay loam, silty clay loam, paragravelly silt loam, silt loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	59-69	*Weathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				Pct	Pct			
29D:									
Klootchie-------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-9	*Medial silt loam	*OH, MH	*A-5	0	0-10	90-100	85-100	75-10
	9-19	*Medial silt loam, medial loam	*MH	*A-5	0	0-10	90-100	85-100	70-10
	19-44	*Medial silty clay loam, gravelly medial silt loam, gravelly medial clay loam, gravelly medial silty clay loam, gravelly medial loam, medial loam, medial silt loam, medial clay loam	*MH, GM	*A-5	0	0-15	65-100	60-100	50-10
	44-68	*Medial silty clay loam, gravelly medial silt loam, gravelly medial clay loam, gravelly medial silty clay loam, gravelly medial loam, medial loam, medial silt loam, medial clay loam	*MH, GM	*A-5	0	0-15	65-100	60-100	50-10

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage pass(ing) sieve number: 4	10	40
	In				*Pct*	*Pct*			
29E:									
Templeton-------	0-2	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	2-15	*Medial silt loam	*OL, ML	*A-5	0	0	95-100	90-100	85-10
	15-28	*Silty clay loam, silt loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	28-43	*Silty clay loam, paragravelly silt loam, paragravelly silty clay loam, very paragravelly silty clay loam, silt loam, very paragravelly silt loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	43-54	*Silty clay loam, very paragravelly silt loam, very paragravelly silty clay loam, silt loam, paragravelly silt loam, paragravelly silty clay loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	54-59	*Paragravelly silty clay loam, very paragravelly silt loam, very paragravelly silty clay loam, silty clay loam, paragravelly silt loam, silt loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	59-69	*Weathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
29E:									
Klootchie-------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-9	*Medial silt loam	*OH, MH	*A-5	0	0-10	90-100	85-100	75-10
	9-19	*Medial silt loam, medial loam	*MH	*A-5	0	0-10	90-100	85-100	70-10
	19-44	*Medial silty clay loam, gravelly medial silt loam, gravelly medial clay loam, gravelly medial silty clay loam, gravelly medial loam, medial loam, medial silt loam, medial clay loam	*MH, GM	*A-5	0	0-15	65-100	60-100	50-10
	44-68	*Medial silty clay loam, gravelly medial silt loam, gravelly medial clay loam, gravelly medial silty clay loam, gravelly medial loam, medial loam, medial silt loam, medial clay loam	*MH, GM	*A-5	0	0-15	65-100	60-100	50-10

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
30D:									
Templeton-------	0-2	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	2-15	*Medial silt loam	*OL, ML	*A-5	0	0	95-100	90-100	85-10
	15-28	*Silty clay loam, silt loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	28-43	*Silty clay loam, paragravelly silt loam, paragravelly silty clay loam, very paragravelly silty clay loam, silt loam, very paragravelly silt loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	43-54	*Silty clay loam, very paragravelly silt loam, very paragravelly silty clay loam, silt loam, paragravelly silt loam, paragravelly silty clay loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	54-59	*Paragravelly silty clay loam, very paragravelly silt loam, very paragravelly silty clay loam, silty clay loam, paragravelly silt loam, silt loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	59-69	*Weathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
30E:									
Templeton-------	0-2	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	2-15	*Medial silt loam	*OL, ML	*A-5	0	0	95-100	90-100	85-10
	15-28	*Silty clay loam, silt loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	28-43	*Silty clay loam, paragravelly silt loam, paragravelly silty clay loam, very paragravelly silty clay loam, silt loam, very paragravelly silt loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	43-54	*Silty clay loam, very paragravelly silt loam, very paragravelly silty clay loam, silt loam, paragravelly silt loam, paragravelly silty clay loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	54-59	*Paragravelly silty clay loam, very paragravelly silt loam, very paragravelly silty clay loam, silty clay loam, paragravelly silt loam, silt loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	59-69	*Weathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
30E:									
Ecola-----------	0-3	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	3-12	*Medial silt loam	*OL, ML	*A-5, A-4	0	0	100	100	90-10
	12-19	*Paragravelly silt loam, paragravelly silty clay loam, silty clay loam, medial silt loam	*ML, CL	*A-5, A-6	0	0	100	100	95-10
	19-36	*Very paragravelly silty clay loam, paragravelly silt loam, paragravelly silty clay loam, silt loam, very paragravelly silt loam, silty clay loam	*CL	*A-6	0	0	100	100	95-10
	36-46	*Weathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	Percentage pass sieve number: 10	Percentage pass sieve number: 40
	In				*Pct*	*Pct*			
30F:									
Templeton-------	0-2	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	2-15	*Medial silt loam	*OL, ML	*A-5	0	0	95-100	90-100	85-10
	15-28	*Silty clay loam, silt loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	28-43	*Silty clay loam, paragravelly silt loam, paragravelly silty clay loam, very paragravelly silty clay loam, silt loam, very paragravelly silt loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	43-54	*Silty clay loam, very paragravelly silt loam, very paragravelly silty clay loam, silt loam, paragravelly silt loam, paragravelly silty clay loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	54-59	*Paragravelly silty clay loam, very paragravelly silt loam, very paragravelly silty clay loam, silty clay loam, paragravelly silt loam, silt loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	59-69	*Weathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	Percentage pass sieve number: 10	Percentage pass sieve number: 40
	In				*Pct*	*Pct*			
30F:									
Ecola-----------	0-3	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	3-12	*Medial silt loam	*OL, ML	*A-5, A-4	0	0	100	100	90-10
	12-19	*Paragravelly silt loam, paragravelly silty clay loam, silty clay loam, medial silt loam	*ML, CL	*A-5, A-6	0	0	100	100	95-10
	19-36	*Very paragravelly silty clay loam, paragravelly silt loam, paragravelly silty clay loam, silt loam, very paragravelly silt loam, silty clay loam	*CL	*A-6	0	0	100	100	95-10
	36-46	*Weathered bedrock	---	---	---	---	---	---	---
31D:									
Tolovana--------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-6	*Medial silt loam	*OH, MH	*A-5	0	0-15	90-100	85-100	75-10
	6-9	*Medial silt loam	*OH, MH	*A-5	0	0-15	90-100	85-100	75-10
	9-20	*Medial silt loam	*MH	*A-5	0	0-15	90-100	85-100	75-10
	20-27	*Silty clay loam, clay loam, paragravelly clay loam	*CL	*A-6, A-4	0	0-15	90-100	85-100	75-10
	27-38	*Silty clay loam, paragravelly clay loam, clay loam	*CL	*A-6, A-4	0	0-15	90-100	85-100	75-10
	38-48	*Paragravelly clay loam, silty clay loam, clay loam	*CL	*A-6, A-4	0	0-15	90-100	85-100	75-10
	48-60	*Very paragravelly clay loam, loam, paragravelly clay loam, very paragravelly loam, clay loam, gravelly loam, cobbly loam, cobbly clay loam	*CL, GC, CL-ML, SC, GC-GM, SC-SM	*A-6, A-4	0	0-20	70-100	65-100	55-10

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
31D:									
Templeton-------	0-2	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	2-15	*Medial silt loam	*OL, ML	*A-5	0	0	95-100	90-100	85-10
	15-28	*Silty clay loam, silt loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	28-43	*Silty clay loam, paragravelly silt loam, paragravelly silty clay loam, very paragravelly silty clay loam, silt loam, very paragravelly silt loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	43-54	*Silty clay loam, very paragravelly silt loam, very paragravelly silty clay loam, silt loam, paragravelly silt loam, paragravelly silty clay loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	54-59	*Paragravelly silty clay loam, very paragravelly silt loam, very paragravelly silty clay loam, silty clay loam, paragravelly silt loam, silt loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	59-69	*Weathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	10	40
	In				Pct	Pct			
31E:									
Tolovana--------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-6	*Medial silt loam	*OH, MH	*A-5	0	0-15	90-100	85-100	75-10
	6-9	*Medial silt loam	*OH, MH	*A-5	0	0-15	90-100	85-100	75-10
	9-20	*Medial silt loam	*MH	*A-5	0	0-15	90-100	85-100	75-10
	20-27	*Silty clay loam, clay loam, paragravelly clay loam	*CL	*A-6, A-4	0	0-15	90-100	85-100	75-10
	27-38	*Silty clay loam, paragravelly clay loam, clay loam	*CL	*A-6, A-4	0	0-15	90-100	85-100	75-10
	38-48	*Paragravelly clay loam, silty clay loam, clay loam	*CL	*A-6, A-4	0	0-15	90-100	85-100	75-10
	48-60	*Very paragravelly clay loam, loam, paragravelly clay loam, very paragravelly loam, clay loam, gravelly loam, cobbly loam, cobbly clay loam	*CL, GC, CL-ML, SC, GC-GM, SC-SM	*A-6, A-4	0	0-20	70-100	65-100	55-10

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	Percentage pass sieve number: 10	Percentage pass sieve number: 40
	In				*Pct*	*Pct*			
31E:									
Templeton-------	0-2	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	2-15	*Medial silt loam	*OL, ML	*A-5	0	0	95-100	90-100	85-10
	15-28	*Silty clay loam, silt loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	28-43	*Silty clay loam, paragravelly silt loam, paragravelly silty clay loam, very paragravelly silty clay loam, silt loam, very paragravelly silt loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	43-54	*Silty clay loam, very paragravelly silt loam, very paragravelly silty clay loam, silt loam, paragravelly silt loam, paragravelly silty clay loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	54-59	*Paragravelly silty clay loam, very paragravelly silt loam, very paragravelly silty clay loam, silty clay loam, paragravelly silt loam, silt loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	59-69	*Weathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	Percentage pass sieve number: 10	Percentage pass sieve number: 40
	In				*Pct*	*Pct*			
32D:									
Munsoncreek-----	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-10	*Medial silt loam	*OH, MH	*A-5	0	0	90-100	80-100	75-10
	10-18	*Silty clay loam, silt loam	*CL, ML	*A-6	0	0	90-100	80-100	75-10
	18-28	*Silty clay loam, paragravelly silty clay, paragravelly silty clay loam, silty clay	*CL	*A-6, A-7	0	0	90-100	80-100	75-10
	28-41	*Silty clay loam, paragravelly silty clay, very paragravelly silty clay loam, silty clay, paragravelly silty clay loam	*CL	*A-7, A-7	0	0	90-100	80-100	75-10
	41-58	*Extremely paragravelly silty clay loam, paragravelly silty clay, very paragravelly silty clay loam, paragravelly silty clay loam, silty clay loam, silty clay	*CL	*A-7, A-7	0	0	90-100	80-100	75-10
	58-68	*Weathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
32D:									
Flowerpot-------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-8	*Medial silty clay loam	*OH, MH	*A-5	0	0	100	100	95-10
	8-14	*Silty clay loam	*CL	*A-7, A-7	0	0	100	100	95-10
	14-22	*Silty clay loam, paragravelly silty clay loam	*CL	*A-7, A-7	0	0	100	100	95-10
	22-30	*Silty clay loam, paragravelly silty clay loam	*CL	*A-7, A-7	0	0	100	100	95-10
	30-52	*Silty clay loam, silty clay, paragravelly silty clay loam	*CL	*A-7, A-7	0	0	100	100	95-10
	52-60	*Silty clay loam, silty clay, paragravelly silty clay loam, very paragravelly silty clay loam	*CL	*A-7, A-7	0	0	100	100	95-10

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	10	40
	In				*Pct*	*Pct*			
32E:									
Munsoncreek-----	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-10	*Medial silt loam	*OH, MH	*A-5	0	0	90-100	80-100	75-10
	10-18	*Silty clay loam, silt loam	*CL, ML	*A-6	0	0	90-100	80-100	75-10
	18-28	*Silty clay loam, paragravelly silty clay, paragravelly silty clay loam, silty clay	*CL	*A-6, A-7	0	0	90-100	80-100	75-10
	28-41	*Silty clay loam, paragravelly silty clay, very paragravelly silty clay loam, silty clay, paragravelly silty clay loam	*CL	*A-7, A-7	0	0	90-100	80-100	75-10
	41-58	*Extremely paragravelly silty clay loam, paragravelly silty clay, very paragravelly silty clay loam, paragravelly silty clay loam, silty clay loam, silty clay	*CL	*A-7, A-7	0	0	90-100	80-100	75-10
	58-68	*Weathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
32E:									
Templeton-------	0-2	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	2-15	*Medial silt loam	*OL, ML	*A-5	0	0	95-100	90-100	85-10
	15-28	*Silty clay loam, silt loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	28-43	*Silty clay loam, paragravelly silt loam, paragravelly silty clay loam, very paragravelly silty clay loam, silt loam, very paragravelly silt loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	43-54	*Silty clay loam, very paragravelly silt loam, very paragravelly silty clay loam, silt loam, paragravelly silt loam, paragravelly silty clay loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	54-59	*Paragravelly silty clay loam, very paragravelly silt loam, very paragravelly silty clay loam, silty clay loam, paragravelly silt loam, silt loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	59-69	*Weathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	Percentage pass sieve number: 10	Percentage pass sieve number: 40
	In				Pct	Pct			
33D:									
Tolovana--------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-6	*Medial silt loam	*OH, MH	*A-5	0	0-15	90-100	85-100	75-10
	6-9	*Medial silt loam	*OH, MH	*A-5	0	0-15	90-100	85-100	75-10
	9-20	*Medial silt loam	*MH	*A-5	0	0-15	90-100	85-100	75-10
	20-27	*Silty clay loam, clay loam, paragravelly clay loam	*CL	*A-6, A-4	0	0-15	90-100	85-100	75-10
	27-38	*Silty clay loam, paragravelly clay loam, clay loam	*CL	*A-6, A-4	0	0-15	90-100	85-100	75-10
	38-48	*Paragravelly clay loam, silty clay loam, clay loam	*CL	*A-6, A-4	0	0-15	90-100	85-100	75-10
	48-60	*Very paragravelly clay loam, loam, paragravelly clay loam, very paragravelly loam, clay loam, gravelly loam, cobbly loam, cobbly clay loam	*CL, GC, CL-ML, SC, GC-GM, SC-SM	*A-6, A-4	0	0-20	70-100	65-100	55-10

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
37D:									
Templeton-------	0-2	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	2-15	*Medial silt loam	*OL, ML	*A-5	0	0	95-100	90-100	85-10
	15-28	*Silty clay loam, silt loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	28-43	*Silty clay loam, paragravelly silt loam, paragravelly silty clay loam, very paragravelly silty clay loam, silt loam, very paragravelly silt loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	43-54	*Silty clay loam, very paragravelly silt loam, very paragravelly silty clay loam, silt loam, paragravelly silt loam, paragravelly silty clay loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	54-59	*Paragravelly silty clay loam, very paragravelly silt loam, very paragravelly silty clay loam, silty clay loam, paragravelly silt loam, silt loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	59-69	*Weathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage pass sieve number 4	10	40
	In				*Pct*	*Pct*			
37D:									
Skipanon--------	0-2	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	2-7	*Gravelly medial silt loam	*GM, OH	*A-5, A-2	0	0-15	45-70	40-65	35-65
	7-15	*Gravelly silt loam, gravelly medial silt loam	*MH, GM	*A-5, A-2	0	0-15	50-70	45-65	35-65
	15-29	*Gravelly clay loam, cobbly clay loam, cobbly silt loam, gravelly silt loam	*CL, GC-GM	*A-6, A-2	0-10	0-30	50-75	45-70	35-70
	29-44	*Gravelly clay loam, cobbly clay loam, cobbly silt loam, gravelly silt loam	*GC, GC-GM, CL	*A-6, A-2	0-10	0-30	50-75	45-70	35-70
	44-62	*Paragravelly clay loam, very paragravelly clay loam, paragravelly silt loam, very paragravelly silt loam, paragravelly silty clay loam, silty clay loam, clay loam	*CL, CL-ML	*A-6, A-4	0	0-10	90-100	85-100	80-10

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
37E:									
Templeton-------	0-2	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	2-15	*Medial silt loam	*OL, ML	*A-5	0	0	95-100	90-100	85-10
	15-28	*Silty clay loam, silt loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	28-43	*Silty clay loam, paragravelly silt loam, paragravelly silty clay loam, very paragravelly silty clay loam, silt loam, very paragravelly silt loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	43-54	*Silty clay loam, very paragravelly silt loam, very paragravelly silty clay loam, silt loam, paragravelly silt loam, paragravelly silty clay loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	54-59	*Paragravelly silty clay loam, very paragravelly silt loam, very paragravelly silty clay loam, silty clay loam, paragravelly silt loam, silt loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	59-69	*Weathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
37E:									
Skipanon--------	0-2	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	2-7	*Gravelly medial silt loam	*GM, OH	*A-5, A-2	0	0-15	45-70	40-65	35-65
	7-15	*Gravelly silt loam, gravelly medial silt loam	*MH, GM	*A-5, A-2	0	0-15	50-70	45-65	35-65
	15-29	*Gravelly clay loam, cobbly clay loam, cobbly silt loam, gravelly silt loam	*CL, GC-GM	*A-6, A-2	0-10	0-30	50-75	45-70	35-70
	29-44	*Gravelly clay loam, cobbly clay loam, cobbly silt loam, gravelly silt loam	*GC, GC-GM, CL	*A-6, A-2	0-10	0-30	50-75	45-70	35-70
	44-62	*Paragravelly clay loam, very paragravelly clay loam, paragravelly silt loam, very paragravelly silt loam, paragravelly silty clay loam, silty clay loam, clay loam	*CL, CL-ML	*A-6, A-4	0	0-10	90-100	85-100	80-10

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				Pct	Pct			
38E:									
Templeton-------	0-2	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	2-15	*Medial silt loam	*OL, ML	*A-5	0	0	95-100	90-100	85-10
	15-28	*Silty clay loam, silt loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	28-43	*Silty clay loam, paragravelly silt loam, paragravelly silty clay loam, very paragravelly silty clay loam, silt loam, very paragravelly silt loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	43-54	*Silty clay loam, very paragravelly silt loam, very paragravelly silty clay loam, silt loam, paragravelly silt loam, paragravelly silty clay loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	54-59	*Paragravelly silty clay loam, very paragravelly silt loam, very paragravelly silty clay loam, silty clay loam, paragravelly silt loam, silt loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	59-69	*Weathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
38E:									
Necanicum-------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-10	*Very gravelly medial loam	*GM	*A-2, A-1	0-10	0-15	35-60	30-50	25-45
	10-18	*Very gravelly medial loam	*GM	*A-2, A-1	0-10	0-15	35-60	30-50	25-45
	18-27	*Very gravelly medial loam, extremely cobbly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-2, A-1, A-5	0-15	0-65	20-65	15-60	10-55
	27-49	*Extremely cobbly medial loam, very gravelly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-1, A-5, A-2	0-15	0-65	20-65	15-60	10-55
	49-71	*Extremely cobbly medial loam, very gravelly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-1, A-5, A-2	0-15	0-65	20-65	15-60	10-55

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	10	40
	In				*Pct*	*Pct*			
43F:									
Klistan---------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-7	*Very gravelly medial loam	*GM	*A-1, A-2	0	0-15	35-60	30-55	25-45
	7-14	*Very gravelly medial loam	*GM	*A-2, A-1	0	0-15	35-60	30-55	25-45
	14-26	*Very gravelly medial loam, extremely cobbly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-2, A-1	0	0-50	25-60	20-55	15-50
	26-36	*Extremely gravelly medial loam, extremely cobbly medial loam, very cobbly medial loam, very gravelly medial loam	*GM, GP-GM	*A-1, A-2	0	0-50	25-60	20-55	15-50
	36-44	*Extremely gravelly medial loam, very gravelly medial loam, very cobbly medial loam, extremely cobbly medial loam	*GM, GP-GM	*A-1, A-2	0	0-50	25-60	20-55	15-50
	44-48	*Unweathered bedrock	---	---	---	---	---	---	---
Harslow---------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-7	*Extremely gravelly medial loam	*GP-GM, GM	*A-1	0	0-20	20-35	15-30	15-25
	7-13	*Extremely gravelly medial loam, very gravelly medial loam	*GM, GP-GM	*A-1, A-2	0	0-20	20-50	15-45	15-40
	13-22	*Extremely gravelly medial loam, extremely cobbly medial loam, very cobbly medial loam, very gravelly medial loam	*GM, SM, SP-SM, GP-GM	*A-1, A-2	0	0-50	20-60	15-55	15-50
	22-37	*Extremely gravelly medial loam, extremely cobbly medial loam	*GP-GM, GM	*A-1, A-2	0	0-50	20-45	15-40	15-35
	37-41	*Unweathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
43F:									
Hemcross--------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-9	*Medial loam	*MH	*A-5	0	0-5	90-100	85-100	70-90
	9-20	*Medial loam	*MH	*A-5	0	0-5	90-100	85-100	70-90
	20-49	*Medial loam, medial clay loam, gravelly medial loam, gravelly medial clay loam	*MH, GM	*A-5	0	0-5	60-100	55-100	45-90
	49-62	*Medial loam, medial clay loam, gravelly medial loam, gravelly medial clay loam	*MH, GM	*A-5	0	0-5	60-100	55-100	45-90
44E:									
Klistan---------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-7	*Very gravelly medial loam	*GM	*A-1, A-2	0	0-15	35-60	30-55	25-45
	7-14	*Very gravelly medial loam	*GM	*A-2, A-1	0	0-15	35-60	30-55	25-45
	14-26	*Very gravelly medial loam, extremely cobbly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-2, A-1	0	0-50	25-60	20-55	15-50
	26-36	*Extremely gravelly medial loam, extremely cobbly medial loam, very cobbly medial loam, very gravelly medial loam	*GM, GP-GM	*A-1, A-2	0	0-50	25-60	20-55	15-50
	36-44	*Extremely gravelly medial loam, very gravelly medial loam, very cobbly medial loam, extremely cobbly medial loam	*GM, GP-GM	*A-1, A-2	0	0-50	25-60	20-55	15-50
	44-48	*Unweathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				Pct	Pct			
44E:									
Harslow---------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-7	*Extremely gravelly medial loam	*GP-GM, GM	*A-1	0	0-20	20-35	15-30	15-25
	7-13	*Extremely gravelly medial loam, very gravelly medial loam	*GM, GP-GM	*A-1, A-2	0	0-20	20-50	15-45	15-40
	13-22	*Extremely gravelly medial loam, extremely cobbly medial loam, very cobbly medial loam, very gravelly medial loam	*GM, SM, SP-SM, GP-GM	*A-1, A-2	0	0-50	20-60	15-55	15-50
	22-37	*Extremely gravelly medial loam, extremely cobbly medial loam	*GP-GM, GM	*A-1, A-2	0	0-50	20-45	15-40	15-35
	37-41	*Unweathered bedrock	---	---	---	---	---	---	---
Rock outcrop----	0-60	*Unweathered bedrock	---	---	---	---	---	---	---
44F:									
Harslow---------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-7	*Extremely gravelly medial loam	*GP-GM, GM	*A-1	0	0-20	20-35	15-30	15-25
	7-13	*Extremely gravelly medial loam, very gravelly medial loam	*GM, GP-GM	*A-1, A-2	0	0-20	20-50	15-45	15-40
	13-22	*Extremely gravelly medial loam, extremely cobbly medial loam, very cobbly medial loam, very gravelly medial loam	*GM, SM, SP-SM, GP-GM	*A-1, A-2	0	0-50	20-60	15-55	15-50
	22-37	*Extremely gravelly medial loam, extremely cobbly medial loam	*GP-GM, GM	*A-1, A-2	0	0-50	20-45	15-40	15-35
	37-41	*Unweathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	10	40
	In				Pct	Pct			
44F:									
Klistan---------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-7	*Very gravelly medial loam	*GM	*A-1, A-2	0	0-15	35-60	30-55	25-45
	7-14	*Very gravelly medial loam	*GM	*A-2, A-1	0	0-15	35-60	30-55	25-45
	14-26	*Very gravelly medial loam, extremely cobbly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-2, A-1	0	0-50	25-60	20-55	15-50
	26-36	*Extremely gravelly medial loam, extremely cobbly medial loam, very cobbly medial loam, very gravelly medial loam	*GM, GP-GM	*A-1, A-2	0	0-50	25-60	20-55	15-50
	36-44	*Extremely gravelly medial loam, very gravelly medial loam, very cobbly medial loam, extremely cobbly medial loam	*GM, GP-GM	*A-1, A-2	0	0-50	25-60	20-55	15-50
	44-48	*Unweathered bedrock	---	---	---	---	---	---	---
Rock outcrop----	0-60	*Unweathered bedrock	---	---	---	---	---	---	---
45B:									
Hebo------------	0-4	*Silty clay loam	*CL	*A-6, A-7	0	0	100	100	95-10
	4-10	*Silty clay, silty clay loam	*CH, CL	*A-7	0	0	100	100	95-10
	10-18	*Clay, silty clay	*CH	*A-7	0	0	100	100	90-10
	18-26	*Clay, silty clay	*CH	*A-7	0	0	100	100	90-10
	26-35	*Silty clay, clay	*CH	*A-7	0	0	100	100	90-10
	35-60	*Clay loam, silty clay loam, silty clay	*CL, CH	*A-7	0	0	85-100	80-100	70-10

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	10	40
	In				Pct	Pct			
48D:									
Hemcross--------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-9	*Medial loam	*MH	*A-5	0	0-5	90-100	85-100	70-90
	9-20	*Medial loam	*MH	*A-5	0	0-5	90-100	85-100	70-90
	20-49	*Medial loam, medial clay loam, gravelly medial loam, gravelly medial clay loam	*MH, GM	*A-5	0	0-5	60-100	55-100	45-90
	49-62	*Medial loam, medial clay loam, gravelly medial loam, gravelly medial clay loam	*MH, GM	*A-5	0	0-5	60-100	55-100	45-90
Klistan---------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-7	*Very gravelly medial loam	*GM	*A-1, A-2	0	0-15	35-60	30-55	25-45
	7-14	*Very gravelly medial loam	*GM	*A-2, A-1	0	0-15	35-60	30-55	25-45
	14-26	*Very gravelly medial loam, extremely cobbly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-2, A-1	0	0-50	25-60	20-55	15-50
	26-36	*Extremely gravelly medial loam, extremely cobbly medial loam, very cobbly medial loam, very gravelly medial loam	*GM, GP-GM	*A-1, A-2	0	0-50	25-60	20-55	15-50
	36-44	*Extremely gravelly medial loam, very gravelly medial loam, very cobbly medial loam, extremely cobbly medial loam	*GM, GP-GM	*A-1, A-2	0	0-50	25-60	20-55	15-50
	44-48	*Unweathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	Percentage pass sieve number: 10	Percentage pass sieve number: 40
	In				*Pct*	*Pct*			
48E:									
Hemcross--------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-9	*Medial loam	*MH	*A-5	0	0-5	90-100	85-100	70-90
	9-20	*Medial loam	*MH	*A-5	0	0-5	90-100	85-100	70-90
	20-49	*Medial loam, medial clay loam, gravelly medial loam, gravelly medial clay loam	*MH, GM	*A-5	0	0-5	60-100	55-100	45-90
	49-62	*Medial loam, medial clay loam, gravelly medial loam, gravelly medial clay loam	*MH, GM	*A-5	0	0-5	60-100	55-100	45-90
Klistan---------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-7	*Very gravelly medial loam	*GM	*A-1, A-2	0	0-15	35-60	30-55	25-45
	7-14	*Very gravelly medial loam	*GM	*A-2, A-1	0	0-15	35-60	30-55	25-45
	14-26	*Very gravelly medial loam, extremely cobbly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-2, A-1	0	0-50	25-60	20-55	15-50
	26-36	*Extremely gravelly medial loam, extremely cobbly medial loam, very cobbly medial loam, very gravelly medial loam	*GM, GP-GM	*A-1, A-2	0	0-50	25-60	20-55	15-50
	36-44	*Extremely gravelly medial loam, very gravelly medial loam, very cobbly medial loam, extremely cobbly medial loam	*GM, GP-GM	*A-1, A-2	0	0-50	25-60	20-55	15-50
	44-48	*Unweathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40
	In				Pct	Pct			
50B:									
Walluski--------	0-2	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	2-13	*Medial silt loam	*MH, OH	*A-5	0	0	100	100	90-10
	13-27	*Silty clay loam, silt loam	*CL, CL-ML	*A-6, A-4	0	0	100	100	90-10
	27-36	*Silty clay loam, silt loam	*CL, CL-ML	*A-6, A-4	0	0	100	100	90-10
	36-62	*Silty clay loam, clay, silty clay	*CL, CH	*A-4, A-7	0	0	100	100	90-10
51B:									
Walluski--------	0-2	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	2-13	*Medial silt loam	*MH, OH	*A-5	0	0	100	100	90-10
	13-27	*Silty clay loam, silt loam	*CL, CL-ML	*A-6, A-4	0	0	100	100	90-10
	27-36	*Silty clay loam, silt loam	*CL, CL-ML	*A-6, A-4	0	0	100	100	90-10
	36-62	*Silty clay loam, clay, silty clay	*CL, CH	*A-4, A-7	0	0	100	100	90-10
Chitwood--------	0-7	*Medial silt loam	*MH, OH	*A-5	0	0	100	100	90-10
	7-11	*Silt loam, medial silt loam	*MH	*A-5	0	0	100	100	90-10
	11-19	*Silty clay loam	*CL	*A-6	0	0	100	100	95-10
	19-29	*Silty clay, silty clay loam	*CL	*A-7, A-6	0	0	100	100	95-10
	29-60	*Silty clay loam, silty clay	*CL	*A-6, A-7	0	0	100	100	95-10
51C:									
Walluski--------	0-2	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	2-13	*Medial silt loam	*MH, OH	*A-5	0	0	100	100	90-10
	13-27	*Silty clay loam, silt loam	*CL, CL-ML	*A-6, A-4	0	0	100	100	90-10
	27-36	*Silty clay loam, silt loam	*CL, CL-ML	*A-6, A-4	0	0	100	100	90-10
	36-62	*Silty clay loam, clay, silty clay	*CL, CH	*A-4, A-7	0	0	100	100	90-10

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
51C:									
Chitwood--------	0-7	*Medial silt loam	*MH, OH	*A-5	0	0	100	100	90-10
	7-11	*Silt loam, medial silt loam	*MH	*A-5	0	0	100	100	90-10
	11-19	*Silty clay loam	*CL	*A-6	0	0	100	100	95-10
	19-29	*Silty clay, silty clay loam	*CL	*A-7, A-6	0	0	100	100	95-10
	29-60	*Silty clay loam, silty clay	*CL	*A-6, A-7	0	0	100	100	95-10
54B:									
Knappa----------	0-9	*Medial silt loam	*MH, OH	*A-5	0	0	100	100	90-10
	9-20	*Silt loam, medial silt loam	*MH	*A-5	0	0	100	100	90-10
	20-25	*Silty clay loam, silt loam	*CL, CL-ML	*A-4, A-6	0	0	85-100	80-100	70-10
	25-45	*Silty clay loam, silt loam	*CL, CL-ML	*A-4, A-6	0	0	85-100	80-100	70-10
	45-60	*Silty clay loam, paragravelly silt loam, paragravelly silty clay loam	*CL, CL-ML	*A-6, A-4	0	0	85-100	80-100	70-10
55A:									
Histosols-------	0-7	*Mucky peat	*PT	*A-8	0	0	100	100	90-10
	7-13	*Muck	*PT	*A-8	0	0	100	100	90-10
	13-20	*Muck	*PT	*A-8	0	0	100	100	90-10
	20-32	*Mucky silt loam, mucky silty clay loam, fine sandy loam, silt loam, silty clay loam	*OL, OH, SM, ML, MH	*A-4, A-7, A-6, A-5	0	0	100	100	70-10
	32-60	*Mucky silty clay loam, silty clay loam, fine sandy loam, mucky silt loam, silt loam	*CL, MH, ML, SM, OH	*A-4, A-7, A-6, A-5	0	0	100	100	70-10
Water-----------	---	---	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
56B:									
Wolfer----------	0-8	*Medial silt loam	*OH, MH	*A-5	0	0	70-100	65-100	55-95
	8-14	*Medial silt loam	*MH, OH	*A-5	0	0	70-100	65-100	55-95
	14-22	*Medial silt loam	*MH	*A-5	0	0	70-100	65-100	55-95
	22-35	*Medial silty clay loam, gravelly medial clay loam, gravelly medial loam, medial loam	*MH, GM	*A-5, A-1	0	0-15	40-100	35-100	35-95
	35-60	*Extremely gravelly loam, extremely gravelly sandy loam, extremely gravelly loamy sand	*GP-GM, GM	*A-1	0	0-30	15-30	10-25	10-25
56C:									
Wolfer----------	0-8	*Medial silt loam	*OH, MH	*A-5	0	0	70-100	65-100	55-95
	8-14	*Medial silt loam	*MH, OH	*A-5	0	0	70-100	65-100	55-95
	14-22	*Medial silt loam	*MH	*A-5	0	0	70-100	65-100	55-95
	22-35	*Medial silty clay loam, gravelly medial clay loam, gravelly medial loam, medial loam	*MH, GM	*A-5, A-1	0	0-15	40-100	35-100	35-95
	35-60	*Extremely gravelly loam, extremely gravelly sandy loam, extremely gravelly loamy sand	*GP-GM, GM	*A-1	0	0-30	15-30	10-25	10-25

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
57B:									
Condorbridge----	0-5	*Gravelly medial loam	*SM, GM, MH, OH	*A-5	0	0	60-80	55-75	45-70
	5-12	*Gravelly medial loam, medial silt loam, paragravelly medial silt loam, medial loam, paragravelly silt loam, gravelly loam, loam, silt loam	*SM, GM, MH, OH	*A-5	0	0	60-100	55-100	45-10
	12-26	*Gravelly loam, silt loam, paragravelly silt loam, loam	*GM, SM, ML	*A-4, A-5	0	0	60-100	55-100	45-10
	26-35	*Paragravelly clay loam, clay loam, gravelly clay loam, gravelly loam, silty clay loam	*CL, SC, GC, ML, SM, GM	*A-6, A-7, A-4, A-2	0	0-15	50-100	45-100	35-10
	35-53	*Paragravelly clay loam, silty clay loam, gravelly loam, gravelly clay loam, clay loam	*CL, GM, SM, ML, GC, SC	*A-6, A-7, A-4, A-2	0	0-15	50-100	45-100	35-10
	53-60	*Paragravelly clay loam, silty clay loam, gravelly loam, gravelly clay loam, clay loam	*CL, GM, SM, ML, GC, SC	*A-6, A-7, A-4, A-2	0	0-15	50-100	45-100	35-10

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	10	40
	In				*Pct*	*Pct*			
57C:									
Condorbridge----	0-5	*Gravelly medial loam	*SM, GM, MH, OH	*A-5	0	0	60-80	55-75	45-70
	5-12	*Gravelly medial loam, medial silt loam, paragravelly medial silt loam, medial loam, paragravelly silt loam, gravelly loam, loam, silt loam	*SM, GM, MH, OH	*A-5	0	0	60-100	55-100	45-10
	12-26	*Gravelly loam, silt loam, paragravelly silt loam, loam	*GM, SM, ML	*A-4, A-5	0	0	60-100	55-100	45-10
	26-35	*Paragravelly clay loam, clay loam, gravelly clay loam, gravelly loam, silty clay loam	*CL, SC, GC, ML, SM, GM	*A-6, A-7, A-4, A-2	0	0-15	50-100	45-100	35-10
	35-53	*Paragravelly clay loam, silty clay loam, gravelly loam, gravelly clay loam, clay loam	*CL, GM, SM, ML, GC, SC	*A-6, A-7, A-4, A-2	0	0-15	50-100	45-100	35-10
	53-60	*Paragravelly clay loam, silty clay loam, gravelly loam, gravelly clay loam, clay loam	*CL, GM, SM, ML, GC, SC	*A-6, A-7, A-4, A-2	0	0-15	50-100	45-100	35-10
58C:									
Knappa----------	0-9	*Medial silt loam	*MH, OH	*A-5	0	0	100	100	90-10
	9-20	*Silt loam, medial silt loam	*MH	*A-5	0	0	100	100	90-10
	20-25	*Silty clay loam, silt loam	*CL, CL-ML	*A-4, A-6	0	0	85-100	80-100	70-10
	25-45	*Silty clay loam, silt loam	*CL, CL-ML	*A-4, A-6	0	0	85-100	80-100	70-10
	45-60	*Silty clay loam, paragravelly silt loam, paragravelly silty clay loam	*CL, CL-ML	*A-6, A-4	0	0	85-100	80-100	70-10

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	10	40
	In				*Pct*	*Pct*			
59B:									
Chitwood--------	0-7	*Medial silt loam	*MH, OH	*A-5	0	0	100	100	90-10
	7-11	*Silt loam, medial silt loam	*MH	*A-5	0	0	100	100	90-10
	11-19	*Silty clay loam	*CL	*A-6	0	0	100	100	95-10
	19-29	*Silty clay, silty clay loam	*CL	*A-7, A-6	0	0	100	100	95-10
	29-60	*Silty clay loam, silty clay	*CL	*A-6, A-7	0	0	100	100	95-10
Knappa----------	0-9	*Medial silt loam	*MH, OH	*A-5	0	0	100	100	90-10
	9-20	*Silt loam, medial silt loam	*MH	*A-5	0	0	100	100	90-10
	20-25	*Silty clay loam, silt loam	*CL, CL-ML	*A-4, A-6	0	0	85-100	80-100	70-10
	25-45	*Silty clay loam, silt loam	*CL, CL-ML	*A-4, A-6	0	0	85-100	80-100	70-10
	45-60	*Silty clay loam, paragravelly silt loam, paragravelly silty clay loam	*CL, CL-ML	*A-6, A-4	0	0	85-100	80-100	70-10
60E:									
Caterl----------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-6	*Gravelly medial loam	*GM	*A-5	0	0-15	60-80	55-75	45-65
	6-12	*Very gravelly medial loam, gravelly medial loam	*GM	*A-2, A-5	0	0-15	40-80	35-75	30-65
	12-18	*Very gravelly medial loam, gravelly medial loam	*GM	*A-2, A-5	0	0-15	40-80	35-75	30-65
	18-35	*Very gravelly medial loam, very cobbly medial loam, very gravelly medial clay loam, very cobbly medial clay loam	*GM	*A-1, A-5	0	0-45	40-70	35-65	30-60
	35-53	*Extremely cobbly medial loam, extremely gravelly medial loam	*GM, GP-GM	*A-1, A-2	0-15	0-45	20-45	15-40	15-35
	53-57	*Unweathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	Percentage pass sieve number: 10	Percentage pass sieve number: 40
	In				*Pct*	*Pct*			
60E:									
Laderly---------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-13	*Very gravelly medial loam	*GM	*A-1, A-2	0	0-15	40-60	35-45	30-40
	13-22	*Very gravelly medial loam, extremely cobbly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-1, A-2	0	0-65	35-70	15-65	10-55
	22-30	*Extremely cobbly medial loam, extremely gravelly medial loam, very cobbly medial loam, very gravelly medial loam	*GM, GP-GM	*A-1, A-2	0-15	25-65	25-70	15-65	10-55
	30-34	*Unweathered bedrock	---	---	---	---	---	---	---
Rock outcrop----	0-60	*Unweathered bedrock	---	---	---	---	---	---	---
60F:									
Laderly---------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-13	*Very gravelly medial loam	*GM	*A-1, A-2	0	0-15	40-60	35-45	30-40
	13-22	*Very gravelly medial loam, extremely cobbly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-1, A-2	0	0-65	35-70	15-65	10-55
	22-30	*Extremely cobbly medial loam, extremely gravelly medial loam, very cobbly medial loam, very gravelly medial loam	*GM, GP-GM	*A-1, A-2	0-15	25-65	25-70	15-65	10-55
	30-34	*Unweathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
60F:									
Caterl----------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-6	*Gravelly medial loam	*GM	*A-5	0	0-15	60-80	55-75	45-65
	6-12	*Very gravelly medial loam, gravelly medial loam	*GM	*A-2, A-5	0	0-15	40-80	35-75	30-65
	12-18	*Very gravelly medial loam, gravelly medial loam	*GM	*A-2, A-5	0	0-15	40-80	35-75	30-65
	18-35	*Very gravelly medial loam, very cobbly medial loam, very gravelly medial clay loam, very cobbly medial clay loam	*GM	*A-1, A-5	0	0-45	40-70	35-65	30-60
	35-53	*Extremely cobbly medial loam, extremely gravelly medial loam	*GM, GP-GM	*A-1, A-2	0-15	0-45	20-45	15-40	15-35
	53-57	*Unweathered bedrock	---	---	---	---	---	---	---
Rock outcrop----	0-60	*Unweathered bedrock	---	---	---	---	---	---	---
61F:									
Laderly, south slopes---------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-13	*Very gravelly medial loam	*GM	*A-1, A-2	0	0-15	40-60	35-45	30-40
	13-22	*Very gravelly medial loam, extremely cobbly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-1, A-2	0	0-65	35-70	15-65	10-55
	22-30	*Extremely cobbly medial loam, extremely gravelly medial loam, very cobbly medial loam, very gravelly medial loam	*GM, GP-GM	*A-1, A-2	0-15	25-65	25-70	15-65	10-55
	30-34	*Unweathered bedrock	---	---	---	---	---	---	---
Rock outcrop, south slopes---	0-60	*Unweathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
61F:									
Caterl, south slopes---------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-6	*Gravelly medial loam	*GM	*A-5	0	0-15	60-80	55-75	45-65
	6-12	*Very gravelly medial loam, gravelly medial loam	*GM	*A-2, A-5	0	0-15	40-80	35-75	30-65
	12-18	*Very gravelly medial loam, gravelly medial loam	*GM	*A-2, A-5	0	0-15	40-80	35-75	30-65
	18-35	*Very gravelly medial loam, very cobbly medial loam, very gravelly medial clay loam, very cobbly medial clay loam	*GM	*A-1, A-5	0	0-45	40-70	35-65	30-60
	35-53	*Extremely cobbly medial loam, extremely gravelly medial loam	*GM, GP-GM	*A-1, A-2	0-15	0-45	20-45	15-40	15-35
	53-57	*Unweathered bedrock	---	---	---	---	---	---	---
62F:									
Rock outcrop----	0-60	*Unweathered bedrock	---	---	---	---	---	---	---
Laderly---------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-13	*Very gravelly medial loam	*GM	*A-1, A-2	0	0-15	40-60	35-45	30-40
	13-22	*Very gravelly medial loam, extremely cobbly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-1, A-2	0	0-65	35-70	15-65	10-55
	22-30	*Extremely cobbly medial loam, extremely gravelly medial loam, very cobbly medial loam, very gravelly medial loam	*GM, GP-GM	*A-1, A-2	0-15	25-65	25-70	15-65	10-55
	30-34	*Unweathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number: 4	Percentage passing sieve number: 10	Percentage passing sieve number: 40
	In				*Pct*	*Pct*			
70D:									
Murtip----------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-7	*Medial loam	*OH, MH	*A-5	0	0	90-100	85-100	75-95
	7-14	*Medial loam	*MH	*A-5	0	0	90-100	85-100	75-95
	14-24	*Medial loam, medial clay loam, gravelly medial loam, paragravelly medial loam	*MH, GM	*A-5	0	0-10	60-100	55-100	45-90
	24-43	*Medial loam, gravelly medial loam, medial clay loam, paragravelly medial loam	*MH, GM	*A-5	0	0-10	60-100	55-100	45-90
	43-50	*Gravelly medial loam, gravelly medial clay loam, very gravelly medial loam, very gravelly medial clay loam	*SM, MH, GM, ML	*A-5, A-2	0	0-20	35-80	30-75	30-70
	50-60	*Weathered bedrock	---	---	---	---	---	---	---
Caterl----------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-6	*Gravelly medial loam	*GM	*A-5	0	0-15	60-80	55-75	45-65
	6-12	*Very gravelly medial loam, gravelly medial loam	*GM	*A-2, A-5	0	0-15	40-80	35-75	30-65
	12-18	*Very gravelly medial loam, gravelly medial loam	*GM	*A-2, A-5	0	0-15	40-80	35-75	30-65
	18-35	*Very gravelly medial loam, very cobbly medial loam, very gravelly medial clay loam, very cobbly medial clay loam	*GM	*A-1, A-5	0	0-45	40-70	35-65	30-60
	35-53	*Extremely cobbly medial loam, extremely gravelly medial loam	*GM, GP-GM	*A-1, A-2	0-15	0-45	20-45	15-40	15-35
	53-57	*Unweathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	Percentage pass sieve number: 10	Percentage pass sieve number: 40
	In				*Pct*	*Pct*			
70D:									
Laderly---------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-13	*Very gravelly medial loam	*GM	*A-1, A-2	0	0-15	40-60	35-45	30-40
	13-22	*Very gravelly medial loam, extremely cobbly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-1, A-2	0	0-65	35-70	15-65	10-55
	22-30	*Extremely cobbly medial loam, extremely gravelly medial loam, very cobbly medial loam, very gravelly medial loam	*GM, GP-GM	*A-1, A-2	0-15	25-65	25-70	15-65	10-55
	30-34	*Unweathered bedrock	---	---	---	---	---	---	---
70E:									
Murtip----------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-7	*Medial loam	*OH, MH	*A-5	0	0	90-100	85-100	75-95
	7-14	*Medial loam	*MH	*A-5	0	0	90-100	85-100	75-95
	14-24	*Medial loam, medial clay loam, gravelly medial loam, paragravelly medial loam	*MH, GM	*A-5	0	0-10	60-100	55-100	45-90
	24-43	*Medial loam, gravelly medial loam, medial clay loam, paragravelly medial loam	*MH, GM	*A-5	0	0-10	60-100	55-100	45-90
	43-50	*Gravelly medial loam, gravelly medial clay loam, very gravelly medial loam, very gravelly medial clay loam	*SM, MH, GM, ML	*A-5, A-2	0	0-20	35-80	30-75	30-70
	50-60	*Weathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	Percentage pass sieve number: 10	Percentage pass sieve number: 40
	In				*Pct*	*Pct*			
70E:									
Caterl----------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-6	*Gravelly medial loam	*GM	*A-5	0	0-15	60-80	55-75	45-65
	6-12	*Very gravelly medial loam, gravelly medial loam	*GM	*A-2, A-5	0	0-15	40-80	35-75	30-65
	12-18	*Very gravelly medial loam, gravelly medial loam	*GM	*A-2, A-5	0	0-15	40-80	35-75	30-65
	18-35	*Very gravelly medial loam, very cobbly medial loam, very gravelly medial clay loam, very cobbly medial clay loam	*GM	*A-1, A-5	0	0-45	40-70	35-65	30-60
	35-53	*Extremely cobbly medial loam, extremely gravelly medial loam	*GM, GP-GM	*A-1, A-2	0-15	0-45	20-45	15-40	15-35
	53-57	*Unweathered bedrock	---	---	---	---	---	---	---
Laderly---------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-13	*Very gravelly medial loam	*GM	*A-1, A-2	0	0-15	40-60	35-45	30-40
	13-22	*Very gravelly medial loam, extremely cobbly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-1, A-2	0	0-65	35-70	15-65	10-55
	22-30	*Extremely cobbly medial loam, extremely gravelly medial loam, very cobbly medial loam, very gravelly medial loam	*GM, GP-GM	*A-1, A-2	0-15	25-65	25-70	15-65	10-55
	30-34	*Unweathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	Percentage pass sieve number: 10	Percentage pass sieve number: 40
	In				*Pct*	*Pct*			
71D:									
McMille---------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-5	*Medial silt loam	*MH, ML	*A-5	0	0-15	90-100	80-100	70-10
	5-14	*Medial silt loam, silt loam	*MH, ML	*A-5	0	0-15	90-100	80-100	70-10
	14-20	*Silt loam, paragravelly silt loam, paragravelly silty clay loam, silty clay loam	*ML, CL	*A-4, A-6	0	0-15	90-100	80-100	70-10
	20-32	*Silty clay loam, silt loam, paragravelly silty clay loam, paragravelly silt loam	*CL, ML	*A-6, A-4	0	0-15	90-100	80-100	70-10
	32-45	*Paragravelly silty clay loam, very paragravelly silt loam, very paragravelly silty clay loam, silt loam, paragravelly silt loam, silty clay loam	*CL, ML	*A-6, A-4	0	0-15	90-100	80-100	70-10
	45-55	*Weathered bedrock	---	---	---	---	---	---	---
Mutt------------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-4	*Medial silt loam	*MH, ML	*A-5	0	0-15	85-100	80-100	70-10
	4-13	*Medial silt loam, paragravelly silt loam, silt loam	*MH, ML	*A-5	0	0-15	85-100	80-100	70-10
	13-25	*Silty clay loam, silt loam, paragravelly silty clay loam, very gravelly silt loam	*CL, ML	*A-6, A-4	0	0-15	85-100	80-100	70-10
	25-35	*Weathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
72D:									
Caterl, clayey--	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-6	*Very cobbly medial loam	*GM	*A-5, A-2	0-10	30-45	50-70	45-65	40-60
	6-12	*Very cobbly medial loam	*GM	*A-5, A-2	0-10	30-45	50-70	45-65	40-60
	12-18	*Very cobbly medial loam	*GM	*A-5, A-2	0-10	30-45	50-70	45-65	40-60
	18-41	*Very cobbly medial clay loam, extremely cobbly medial clay loam, very gravelly medial clay loam, extremely gravelly medial clay loam	*GM, GP-GM	*A-2, A-5, A-1	0-15	10-65	35-70	20-65	15-65
	41-53	*Very cobbly clay loam, extremely cobbly clay loam, very gravelly clay loam, extremely gravelly clay loam	*GM, GP-GM	*A-2, A-5, A-2	0-15	10-65	35-70	20-65	15-65
	53-57	*Unweathered bedrock	---	---	---	---	---	---	---
Murtip, clayey--	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-7	*Cobbly medial loam	*OH, MH	*A-5	0	15-30	85-100	80-95	65-90
	7-14	*Cobbly medial loam	*MH	*A-5	0	15-30	85-100	80-95	65-90
	14-24	*Cobbly medial clay loam, medial loam, medial clay loam, cobbly medial loam, gravelly medial loam, gravelly medial clay loam	*MH, GM	*A-5	0	10-30	85-100	55-100	45-10
	24-43	*Cobbly medial clay loam, gravelly medial clay loam, medial clay loam	*MH, GM	*A-5	0	10-30	85-100	55-100	50-10
	43-50	*Cobbly clay loam, gravelly clay loam, clay loam	*MH, GM	*A-7, A-5	0	10-30	85-100	55-100	50-10
	50-60	*Weathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				Pct	Pct			
73A: Nehalem, frequent flooding-------	0-9	*Silt loam	*ML, CL-ML	*A-4	0	0	100	100	90-10
	9-16	*Silt loam	*ML, CL-ML	*A-4	0	0	100	100	90-10
	16-48	*Silt loam, silty clay loam	*CL-ML, CL	*A-4, A-6	0	0	100	100	90-10
	48-60	*Silt loam, loam, silty clay loam, fine sandy loam, very fine sandy loam	*CL-ML, CL, ML, SC-SM, SM	*A-4, A-6	0	0	100	100	70-10
74A: Nehalem, occasional flooding-------	0-9	*Silt loam	*ML, CL-ML	*A-4	0	0	100	100	90-10
	9-16	*Silt loam	*ML, CL-ML	*A-4	0	0	100	100	90-10
	16-48	*Silt loam, silty clay loam	*CL-ML, CL	*A-4, A-6	0	0	100	100	90-10
	48-60	*Silt loam, loam, silty clay loam, fine sandy loam, very fine sandy loam	*CL-ML, CL, ML, SC-SM, SM	*A-4, A-6	0	0	100	100	70-10
76A: Nestucca--------	0-6	*Silt loam	*ML, CL-ML	*A-4	0	0	100	100	90-10
	6-14	*Silt loam	*ML, CL-ML	*A-4	0	0	100	100	90-10
	14-41	*Silty clay loam, silt loam	*CL, CL-ML	*A-6, A-4, A-7	0	0	100	100	90-10
	41-60	*Silty clay, silty clay loam	*CL	*A-7, A-6	0	0	100	100	95-10
77A: Nestucca--------	0-6	*Silt loam	*ML, CL-ML	*A-4	0	0	100	100	90-10
	6-14	*Silt loam	*ML, CL-ML	*A-4	0	0	100	100	90-10
	14-41	*Silty clay loam, silt loam	*CL, CL-ML	*A-6, A-4, A-7	0	0	100	100	90-10
	41-60	*Silty clay, silty clay loam	*CL	*A-7, A-6	0	0	100	100	95-10

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	10	40
	In				*Pct*	*Pct*			
77A:									
Brenner---------	0-7	*Silt loam	*ML	*A-4	0	0	100	100	90-10
	7-12	*Silty clay loam, silt loam	*CL, CL-ML	*A-6, A-7, A-4	0	0	100	100	90-10
	12-18	*Silty clay loam, silt loam	*CL, CL-ML	*A-6, A-4, A-7	0	0	100	100	90-10
	18-26	*Silty clay loam, silt loam	*CL, CL-ML	*A-6, A-4, A-7	0	0	100	100	90-10
	26-40	*Silty clay loam, silt loam	*CL, CL-ML, MH	*A-6, A-4, A-7	0	0	100	100	90-10
	40-55	*Silty clay, silty clay loam	*CL, MH	*A-7, A-6	0	0	100	100	95-10
	55-60	*Silty clay, silty clay loam	*CL, MH	*A-7, A-6	0	0	100	100	95-10
80B:									
Quillamook------	0-8	*Medial silt loam	*OH, MH	*A-5	0	0	80-100	75-100	65-10
	8-17	*Medial silt loam	*OH, MH	*A-5	0	0	80-100	75-100	65-10
	17-28	*Medial silt loam	*MH, OH	*A-5	0	0	80-100	75-100	65-10
	28-47	*Medial silty clay loam, medial silt loam	*MH	*A-5	0	0	80-100	75-100	65-10
	47-60	*Medial silty clay loam, medial silt loam	*MH	*A-5	0	0	80-100	75-100	65-10

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	10	40
	In				*Pct*	*Pct*			
81B: Quillamook, gravelly substratum-----	0-9	*Medial silt loam	*OH, MH	*A-5	0	0	80-100	75-100	65-10
	9-19	*Medial silt loam	*OH, MH	*A-5	0	0	80-100	75-100	65-10
	19-27	*Medial silt loam	*MH, OH	*A-5	0	0	80-100	75-100	65-10
	27-39	*Medial silt loam, gravelly medial silty clay loam, gravelly medial loam, medial loam	*MH, GM	*A-5, A-2	0	0-25	50-100	45-100	45-10
	39-47	*Medial silt loam, gravelly medial clay loam, gravelly medial loam, medial loam, cobbly medial loam, cobbly medial clay loam	*MH, GM	*A-5, A-2	0	0-55	50-100	45-100	45-10
	47-60	*Extremely gravelly loamy coarse sand, extremely gravelly loamy sand, extremely cobbly sandy loam, extremely gravelly sandy loam	*GP, GM, GP-GM	*A-1	0	0-35	15-45	10-40	5-30
Quillamook------	0-8	*Medial silt loam	*OH, MH	*A-5	0	0	80-100	75-100	65-10
	8-17	*Medial silt loam	*OH, MH	*A-5	0	0	80-100	75-100	65-10
	17-28	*Medial silt loam	*MH, OH	*A-5	0	0	80-100	75-100	65-10
	28-47	*Medial silty clay loam, medial silt loam	*MH	*A-5	0	0	80-100	75-100	65-10
	47-60	*Medial silty clay loam, medial silt loam	*MH	*A-5	0	0	80-100	75-100	65-10

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	10	40
	In				*Pct*	*Pct*			
81C: Quillamook, gravelly substratum-----	0-9	*Medial silt loam	*OH, MH	*A-5	0	0	80-100	75-100	65-10
	9-19	*Medial silt loam	*OH, MH	*A-5	0	0	80-100	75-100	65-10
	19-27	*Medial silt loam	*MH, OH	*A-5	0	0	80-100	75-100	65-10
	27-39	*Medial silt loam, gravelly medial silty clay loam, gravelly medial loam, medial loam	*MH, GM	*A-5, A-2	0	0-25	50-100	45-100	45-10
	39-47	*Medial silt loam, gravelly medial clay loam, gravelly medial loam, medial loam, cobbly medial loam, cobbly medial clay loam	*MH, GM	*A-5, A-2	0	0-55	50-100	45-100	45-10
	47-60	*Extremely gravelly loamy coarse sand, extremely gravelly loamy sand, extremely cobbly sandy loam, extremely gravelly sandy loam	*GP, GM, GP-GM	*A-1	0	0-35	15-45	10-40	5-30
Quillamook------	0-8	*Medial silt loam	*OH, MH	*A-5	0	0	80-100	75-100	65-10
	8-17	*Medial silt loam	*OH, MH	*A-5	0	0	80-100	75-100	65-10
	17-28	*Medial silt loam	*MH, OH	*A-5	0	0	80-100	75-100	65-10
	28-47	*Medial silty clay loam, medial silt loam	*MH	*A-5	0	0	80-100	75-100	65-10
	47-60	*Medial silty clay loam, medial silt loam	*MH	*A-5	0	0	80-100	75-100	65-10
89A: Udifluvents-----	0-7	*Fine sandy loam, sandy loam, loamy fine sand, loamy sand	*SM, ML	*A-4, A-2	0	0	100	100	60-85
	7-38	*Sandy loam, loamy sand, loamy fine sand	*SM	*A-2, A-4	0	0	100	100	50-80
	38-60	*Loamy fine sand, extremely gravelly loamy sand, sandy loam, loamy sand	*SM, GP-GM, GP, GM, SP-SM, SP	*A-2, A-4, A-1	0	0	20-100	15-100	10-80

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	10	40
	In				Pct	Pct			
89A:									
Riverwash-------	0-60	*Stratified sand to gravel	---	---	---	---	---	---	---
Water-----------	---	---	---	---	---	---	---	---	---
90A:									
Yachats---------	0-9	*Very fine sandy loam	*ML	*A-4	0	0	100	100	85-95
	9-19	*Loam, very fine sandy loam, silt loam, fine sandy loam	*ML, SM	*A-4	0	0	100	100	70-10
	19-39	*Fine sandy loam, very fine sandy loam, loamy fine sand	*SM, ML	*A-4, A-2	0	0	100	100	50-95
	39-54	*Fine sandy loam, very fine sandy loam, loamy fine sand	*SM, ML	*A-4, A-2	0	0	100	100	50-95
	54-60	*Very fine sandy loam, fine sandy loam, loamy fine sand	*ML, SM	*A-4, A-2	0	0	100	100	50-95
91A:									
Gauldy----------	0-10	*Loam	*ML, SM	*A-4	0	0	75-100	70-100	60-95
	10-26	*Gravelly loam, fine sandy loam, loam	*SM, ML, GM	*A-4, A-2	0	0	55-95	50-90	40-85
	26-38	*Extremely gravelly loamy coarse sand, very cobbly fine sand, loamy sand	*GW-GM, GP-GM, GM, GP	*A-1	0-10	0-40	15-65	10-60	5-35
	38-55	*Loamy fine sand, very cobbly loamy sand, very gravelly loamy coarse sand	*SM, GP, GM	*A-2, A-1	0-20	0-55	15-85	10-80	5-70
	55-60	*Extremely gravelly fine sand, extremely cobbly loamy fine sand, loamy coarse sand	*GP, GP-GM, GM	*A-1	0-10	0-35	15-65	10-60	5-35

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number: 4	10	40
	In				*Pct*	*Pct*			
92A:									
Yachats---------	0-9	*Very fine sandy loam	*ML	*A-4	0	0	100	100	85-95
	9-19	*Loam, very fine sandy loam, silt loam, fine sandy loam	*ML, SM	*A-4	0	0	100	100	70-10
	19-39	*Fine sandy loam, very fine sandy loam, loamy fine sand	*SM, ML	*A-4, A-2	0	0	100	100	50-95
	39-54	*Fine sandy loam, very fine sandy loam, loamy fine sand	*SM, ML	*A-4, A-2	0	0	100	100	50-95
	54-60	*Very fine sandy loam, fine sandy loam, loamy fine sand	*ML, SM	*A-4, A-2	0	0	100	100	50-95
Gauldy----------	0-10	*Loam	*ML, SM	*A-4	0	0	75-100	70-100	60-95
	10-26	*Gravelly loam, fine sandy loam, loam	*SM, ML, GM	*A-4, A-2	0	0	55-95	50-90	40-85
	26-38	*Extremely gravelly loamy coarse sand, very cobbly fine sand, loamy sand	*GW-GM, GP-GM, GM, GP	*A-1	0-10	0-40	15-65	10-60	5-35
	38-55	*Loamy fine sand, very cobbly loamy sand, very gravelly loamy coarse sand	*SM, GP, GM	*A-2, A-1	0-20	0-55	15-85	10-80	5-70
	55-60	*Extremely gravelly fine sand, extremely cobbly loamy fine sand, loamy coarse sand	*GP, GP-GM, GM	*A-1	0-10	0-35	15-65	10-60	5-35

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number: 4	10	40
	In				Pct	Pct			
93B:									
Gauldy, occasional flooding-------	0-10	*Loam	*ML, SM	*A-4	0	0	75-100	70-100	60-95
	10-26	*Gravelly loam, fine sandy loam, loam	*SM, ML, GM	*A-4, A-2	0	0	55-95	50-90	40-85
	26-38	*Extremely gravelly loamy coarse sand, very cobbly fine sand, loamy sand	*GW-GM, GP-GM, GM, GP	*A-1	0-10	0-40	15-65	10-60	5-35
	38-55	*Loamy fine sand, very cobbly loamy sand, very gravelly loamy coarse sand	*SM, GP, GM	*A-2, A-1	0-20	0-55	15-85	10-80	5-70
	55-60	*Extremely gravelly fine sand, extremely cobbly loamy fine sand, loamy coarse sand	*GP, GP-GM, GM	*A-1	0-10	0-35	15-65	10-60	5-35
Gauldy, rare flooding-------	0-10	*Loam	*ML, SM	*A-4	0	0	75-100	70-100	60-95
	10-26	*Gravelly loam, fine sandy loam, loam	*SM, ML, GM	*A-4, A-2	0	0	55-95	50-90	40-85
	26-38	*Extremely gravelly loamy coarse sand, very cobbly fine sand, loamy sand	*GW-GM, GP-GM, GM, GP	*A-1	0-10	0-40	15-65	10-60	5-35
	38-55	*Loamy fine sand, very cobbly loamy sand, very gravelly loamy coarse sand	*SM, GP, GM	*A-2, A-1	0-20	0-55	15-85	10-80	5-70
	55-60	*Extremely gravelly fine sand, extremely cobbly loamy fine sand, loamy coarse sand	*GP, GP-GM, GM	*A-1	0-10	0-35	15-65	10-60	5-35

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
94B:									
Ginger----------	0-8	*Medial silt loam	*OH, MH	*A-5	0	0	80-100	75-100	65-10
	8-17	*Medial silt loam	*MH, OH	*A-5	0	0	80-100	75-100	65-10
	17-20	*Silty clay loam	*CL	*A-6	0	0	85-100	80-100	75-10
	20-28	*Silty clay, silty clay loam	*CL	*A-7	0	0	85-100	80-100	75-10
	28-38	*Silty clay, silty clay loam	*CL	*A-7	0	0	85-100	80-100	75-10
	38-52	*Silty clay, silty clay loam	*CL	*A-7	0	0	85-100	80-100	75-10
	52-60	*Extremely gravelly sandy loam, loamy sand, sandy loam, extremely gravelly loamy sand	*GP-GM, SP, SP-SM, SM, GP, GM	*A-1, A-4, A-2	0	0-15	20-100	15-100	10-75
Quillamook------	0-8	*Medial silt loam	*OH, MH	*A-5	0	0	80-100	75-100	65-10
	8-17	*Medial silt loam	*OH, MH	*A-5	0	0	80-100	75-100	65-10
	17-28	*Medial silt loam	*MH, OH	*A-5	0	0	80-100	75-100	65-10
	28-47	*Medial silty clay loam, medial silt loam	*MH	*A-5	0	0	80-100	75-100	65-10
	47-60	*Medial silty clay loam, medial silt loam	*MH	*A-5	0	0	80-100	75-100	65-10
Urban land------	---	---	---	---	---	---	---	---	---
95B:									
Urban land------	---	---	---	---	---	---	---	---	---
Quillamook------	0-8	*Medial silt loam	*OH, MH	*A-5	0	0	80-100	75-100	65-10
	8-17	*Medial silt loam	*OH, MH	*A-5	0	0	80-100	75-100	65-10
	17-28	*Medial silt loam	*MH, OH	*A-5	0	0	80-100	75-100	65-10
	28-47	*Medial silty clay loam, medial silt loam	*MH	*A-5	0	0	80-100	75-100	65-10
	47-60	*Medial silty clay loam, medial silt loam	*MH	*A-5	0	0	80-100	75-100	65-10

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	10	40
	In				*Pct*	*Pct*			
96B:									
Ginger----------	0-8	*Medial silt loam	*OH, MH	*A-5	0	0	80-100	75-100	65-10
	8-17	*Medial silt loam	*MH, OH	*A-5	0	0	80-100	75-100	65-10
	17-20	*Silty clay loam	*CL	*A-6	0	0	85-100	80-100	75-10
	20-28	*Silty clay, silty clay loam	*CL	*A-7	0	0	85-100	80-100	75-10
	28-38	*Silty clay, silty clay loam	*CL	*A-7	0	0	85-100	80-100	75-10
	38-52	*Silty clay, silty clay loam	*CL	*A-7	0	0	85-100	80-100	75-10
	52-60	*Extremely gravelly sandy loam, loamy sand, sandy loam, extremely gravelly loamy sand	*GP-GM, SP, SP-SM, SM, GP, GM	*A-1, A-4, A-2	0	0-15	20-100	15-100	10-75
Hebo------------	0-4	*Silty clay loam	*CL	*A-6, A-7	0	0	100	100	95-10
	4-10	*Silty clay, silty clay loam	*CH, CL	*A-7	0	0	100	100	95-10
	10-18	*Clay, silty clay	*CH	*A-7	0	0	100	100	90-10
	18-26	*Clay, silty clay	*CH	*A-7	0	0	100	100	90-10
	26-35	*Silty clay, clay	*CH	*A-7	0	0	100	100	90-10
	35-60	*Clay loam, silty clay loam, silty clay	*CL, CH	*A-7	0	0	85-100	80-100	70-10
99:									
Beaches---------	0-60	*Stratified sand to gravel	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				Pct	Pct			
100B:									
Urban land------	---	---	---	---	---	---	---	---	---
Udorthents------	0-2	*Gravelly sandy loam, loam, very gravelly clay loam, sandy loam, silt loam, clay loam, very gravelly loam, gravelly loam	*SM, GP-GM, CL	*A-1, A-2, A-4, A-6	0	0	30-100	25-100	15-95
	2-60	*Very gravelly sandy loam, silty clay loam, clay loam, very gravelly clay loam, extremely gravelly loam, extremely gravelly loamy sand, very gravelly loamy sand, sandy loam, loamy sand	*GW-GM, GP-GM, CL	*A-1, A-6, A-4, A-2	0	0	15-100	10-100	5-95
101B:									
Urban land, flooded--------	---	---	---	---	---	---	---	---	---
Udorthents, flooded--------	0-2	*Gravelly sandy loam, loam, very gravelly clay loam, sandy loam, silt loam, clay loam, very gravelly loam, gravelly loam	*SM, GP-GM, CL	*A-1, A-2, A-4, A-6	0	0	30-100	25-100	15-95
	2-60	*Very gravelly sandy loam, silty clay loam, clay loam, very gravelly clay loam, extremely gravelly loam, extremely gravelly loamy sand, very gravelly loamy sand, sandy loam, loamy sand	*GW-GM, GP-GM, CL	*A-1, A-6, A-4, A-2	0	0	15-100	10-100	5-95

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage pass[ing] sieve number[--] 4	10	40
	In				Pct	Pct			
102A:									
Fluvaquents, diked----------	0-4	*Mucky silt loam, silt loam	*MH, ML, OH, MH	*A-7, A-4, A-5, A-6	0	0	100	100	90-10[0]
	4-7	*Mucky silt loam, silt loam	*MH, ML, OH, MH	*A-7, A-6, A-5, A-4	0	0	100	100	90-10[0]
	7-22	*Silt loam, mucky silt loam, silty clay loam, mucky silty clay loam	*MH, ML, CL, OH	*A-7, A-6, A-5, A-4	0	0	90-100	85-100	80-10[0]
	22-25	*Sandy loam, silty clay loam, mucky silty clay loam, mucky silt loam, silt loam	*SM, MH, ML, OH, CL	*A-4, A-7, A-6, A-5	0	0	90-100	85-100	55-10[0]
	25-45	*Loam, silty clay loam, mucky silty clay loam, mucky silt loam, silt loam	*ML, MH, OH	*A-4, A-5, A-6, A-7	0	0	90-100	85-100	70-10[0]
	45-60	*Very gravelly sandy loam, mucky silty clay loam, fine sandy loam, silty clay loam, mucky silt loam, silt loam	*GM, CL, ML, MH, SM, OH	*A-1, A-6, A-7, A-4, A-5	0	0	35-100	30-100	20-10[0]
Histosols, diked	0-7	*Mucky peat	*PT	*A-8	0	0	100	100	90-10[0]
	7-13	*Muck	*PT	*A-8	0	0	100	100	90-10[0]
	13-20	*Muck	*PT	*A-8	0	0	100	100	90-10[0]
	20-32	*Mucky silt loam, mucky silty clay loam, fine sandy loam, silt loam, silty clay loam	*OL, OH, SM, ML, MH	*A-4, A-7, A-6, A-5	0	0	100	100	70-10[0]
	32-60	*Mucky silty clay loam, silty clay loam, fine sandy loam, mucky silt loam, silt loam	*CL, MH, ML, SM, OH	*A-4, A-7, A-6, A-5	0	0	100	100	70-10[0]
103A:									
Coquille, diked	0-6	*Silt loam	*ML, OL	*A-4	0	0	100	100	95-10[0]
	6-14	*Silt loam, silty clay loam	*ML, OL	*A-4	0	0	100	100	95-10[0]
	14-34	*Silty clay loam, silt loam	*ML, OL	*A-4	0	0	100	100	95-10[0]
	34-49	*Silty clay loam, silt loam	*ML, OL	*A-4	0	0	100	100	95-10[0]
	49-60	*Silty clay loam, silty clay, silt loam	*ML, OH	*A-6, A-7	0	0	100	100	95-10[0]

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
104A:									
Coquille, protected------	0-6	*Silt loam	*ML, OL	*A-4	0	0	100	100	95-10
	6-14	*Silt loam, silty clay loam	*ML, OL	*A-4	0	0	100	100	95-10
	14-34	*Silty clay loam, silt loam	*ML, OL	*A-4	0	0	100	100	95-10
	34-49	*Silty clay loam, silt loam	*ML, OL	*A-4	0	0	100	100	95-10
	49-60	*Silty clay loam, silty clay, silt loam	*ML, OH	*A-6, A-7	0	0	100	100	95-10
Brenner, protected------	0-7	*Silt loam	*ML	*A-4	0	0	100	100	90-10
	7-12	*Silty clay loam, silt loam	*CL, CL-ML	*A-6, A-7, A-4	0	0	100	100	90-10
	12-18	*Silty clay loam, silt loam	*CL, CL-ML	*A-6, A-4, A-7	0	0	100	100	90-10
	18-26	*Silty clay loam, silt loam	*CL, CL-ML	*A-6, A-4, A-7	0	0	100	100	90-10
	26-40	*Silty clay loam, silt loam	*CL, CL-ML, MH	*A-6, A-4, A-7	0	0	100	100	90-10
	40-55	*Silty clay, silty clay loam	*CL, MH	*A-7, A-6	0	0	100	100	95-10
	55-60	*Silty clay, silty clay loam	*CL, MH	*A-7, A-6	0	0	100	100	95-10
Nehalem, protected------	0-9	*Silt loam	*ML, CL-ML	*A-4	0	0	100	100	90-10
	9-16	*Silt loam	*ML, CL-ML	*A-4	0	0	100	100	90-10
	16-48	*Silt loam, silty clay loam	*CL-ML, CL	*A-4, A-6	0	0	100	100	90-10
	48-60	*Silt loam, loam, silty clay loam, fine sandy loam, very fine sandy loam	*CL-ML, CL, ML, SC-SM, SM	*A-4, A-6	0	0	100	100	70-10
110F:									
Waldport, thin surface--------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-3	*Fine sand	*SM	*A-2	0	0	100	100	65-80
	3-60	*Fine sand	*SM	*A-2	0	0	100	100	65-80

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passi sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
115A:									
Aquepts---------	0-3	*Mucky silty clay loam, silt loam	*CL, ML, CL, CL-ML	*A-6, A-4	0	0	90-100	85-100	75-10
	3-9	*Silty clay loam, silt loam	*CL, CL-ML	*A-6, A-4	0	0	90-100	85-100	75-10
	9-20	*Silty clay loam, silt loam, clay loam	*CL, CL-ML	*A-6, A-4	0	0	90-100	85-100	75-10
	20-60	*Silty clay loam, sandy clay loam, clay loam, fine sandy loam, paragravelly sandy clay loam	*CL, SM, CL-ML, SC, ML, SC-SM	*A-6, A-4	0	0	90-100	85-100	60-10
116A:									
Aquepts, warm---	0-9	*Silt loam, mucky silty clay loam	*ML, CL-ML, CL	*A-4, A-6	0	0	90-100	85-100	75-10
	9-20	*Silty clay loam, silt loam	*CL, CL-ML	*A-6, A-4	0	0	90-100	85-100	75-10
	20-43	*Silty clay loam, silt loam, clay loam	*CL, CL-ML	*A-6, A-4	0	0	90-100	85-100	75-10
	43-60	*Silty clay loam, silt loam, clay loam	*CL, CL-ML	*A-6, A-4	0	0	90-100	85-100	75-10

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
118B:									
Oxyaquic Hapludands, flood plains---	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-100
	1-20	*Medial silt loam, medial loam	*MH, OH	*A-5	0	0-15	90-100	85-100	75-100
	20-25	*Extremely gravelly clay loam, gravelly loamy sand, very gravelly sandy loam, sandy loam, extremely gravelly loamy sand	*GP-GC, GC-GM, SC, GC, SM, GP-GM	*A-2, A-1, A-2	0	0-15	20-95	15-90	10-65
	25-38	*Loamy sand, gravelly loamy sand, very gravelly sandy loam, extremely gravelly loamy sand, extremely cobbly loamy sand	*SM, SP-SM, GM, GP-GM	*A-2, A-1, A-3	0-10	0-40	15-95	10-90	5-60
	38-61	*Extremely gravelly loamy sand, extremely cobbly sandy loam, extremely cobbly loamy sand	*GP-GM, GW-GM	*A-1	0-10	0-40	15-35	10-30	5-20
Alic Hapludands, terraces-------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-100
	1-13	*Medial loam	*MH, OH	*A-5	0	0-15	85-100	80-100	70-90
	13-23	*Medial loam, very gravelly medial loam	*MH, GM, SM	*A-5, A-2, A-1	0	0-15	40-100	35-100	30-90
	23-37	*Medial fine sandy loam, medial loam, medial clay loam, very gravelly medial loam	*SM, GM, MH, SP-SM, GP-GM	*A-5, A-2, A-1	0	0-15	20-100	15-100	15-95
	37-61	*Extremely cobbly loamy sand, extremely cobbly sandy loam, extremely gravelly loamy sand	*GW-GM, GP-GM, GM	*A-1	0-15	0-50	15-45	10-40	5-30

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
119B:									
Oxyaquic Fulvudands, flood plains---	0-19	*Medial silt loam, medial loam	*OH, MH	*A-5	0	0-15	90-100	85-100	70-95
	19-26	*Extremely gravelly loamy sand, very gravelly fine sandy loam, gravelly loamy sand, sandy loam, extremely cobbly sandy loam, loamy sand	*GW-GM, SM, SP-SM, GP-GM, GM	*A-1, A-2, A-4	0	0-50	20-95	15-95	10-70
	26-60	*Extremely cobbly loamy sand, very gravelly fine sandy loam, gravelly loamy sand, extremely gravelly loamy sand, sandy loam, loamy sand	*GP-GM, SM, SP-SM, GM, GW-GM	*A-1, A-2, A-4	0-15	0-50	20-95	15-95	10-70

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
119B: Typic Fulvudands, terraces-------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-8	*Medial loam, medial silt loam	*OH, MH	*A-5	0	0-15	90-100	85-100	70-95
	8-21	*Medial loam, medial silt loam, gravelly medial silt loam	*MH, SM, GM	*A-5	0	0-15	65-100	60-100	55-95
	21-35	*Medial loam, medial silt loam, very cobbly medial loam, very gravelly medial loam, medial clay loam	*MH, GM, SM	*A-5, A-1, A-2	0	0-50	40-100	35-95	30-95
	35-45	*Very cobbly medial loam, gravelly medial loam, medial loam, very gravelly medial loam, cobbly medial clay loam	*GM, MH, SM	*A-5, A-1, A-2	0	0-50	40-100	35-95	30-90
	45-53	*Extremely cobbly loam, extremely cobbly loamy sand, extremely gravelly loamy sand, extremely cobbly fine sandy loam	*GM, GP, GP-GM	*A-1	0-15	0-50	15-40	10-35	5-35
	53-61	*Extremely cobbly fine sandy loam, extremely gravelly loamy sand, extremely cobbly loamy sand	*GP-GM, GM, GP	*A-1	0-15	0-50	15-40	10-35	5-30

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	10	40
	In				*Pct*	*Pct*			
120C:									
Alic									
Hapludands,									
terraces-------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-13	*Medial loam	*MH, OH	*A-5	0	0-15	85-100	80-100	70-90
	13-23	*Medial loam, very gravelly medial loam	*MH, SM, GM	*A-5, A-2, A-1	0	0-15	40-100	35-100	30-90
	23-37	*Medial fine sandy loam, medial loam, medial clay loam, very gravelly medial loam	*SM, MH, SP-SM, GM, GP-GM	*A-5, A-2, A-1	0	0-15	20-100	15-100	15-95
	37-61	*Extremely cobbly loamy sand, extremely cobbly sandy loam, extremely gravelly loamy sand	*GW-GM, GP-GM, GM	*A-1	0-15	0-50	15-45	10-40	5-30
Alic									
Hapludands,									
fans-----------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-11	*Very gravelly medial loam	*GM	*A-2, A-1	0	0-15	40-55	35-50	30-45
	11-23	*Extremely gravelly medial loam, very gravelly medial loam, gravelly medial loam	*GM, GP-GM, SM, SP-SM	*A-1, A-2, A-5	0	0-15	20-70	15-65	15-55
	23-45	*Very gravelly medial loam, gravelly medial loam, extremely gravelly medial loam	*GM, SP-SM, SM, GP-GM	*A-1, A-5, A-2	0	0-15	20-70	15-65	15-55
	45-61	*Very gravelly medial loam, gravelly medial loam, extremely gravelly medial loam	*GM, SP-SM, SM, GP-GM	*A-1, A-5, A-2	0	0-15	20-70	15-65	15-55

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				Pct	Pct			
121D:									
Fendall---------	0-8	*Medial silt loam	*OH, MH	*A-5	0	0	80-100	75-100	70-10
	8-13	*Silt loam, medial silt loam	*MH	*A-5	0	0	80-100	75-100	70-10
	13-17	*Silty clay loam, paragravelly silty clay loam	*CL	*A-6, A-7	0	0	85-100	80-100	75-10
	17-27	*Paragravelly silty clay loam, very paragravelly clay, silty clay	*CL	*A-7	0	0	85-100	80-100	75-10
	27-34	*Very paragravelly silty clay loam, clay, paragravelly silty clay	*CL	*A-7	0	0	85-100	80-100	75-10
	34-44	*Weathered bedrock	---	---	---	---	---	---	---
Munsoncreek-----	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-10	*Medial silt loam	*OH, MH	*A-5	0	0	90-100	80-100	75-10
	10-18	*Silty clay loam, silt loam	*CL, ML	*A-6	0	0	90-100	80-100	75-10
	18-28	*Silty clay loam, paragravelly silty clay, paragravelly silty clay loam, silty clay	*CL	*A-6, A-7	0	0	90-100	80-100	75-10
	28-41	*Silty clay loam, paragravelly silty clay, very paragravelly silty clay loam, silty clay, paragravelly silty clay loam	*CL	*A-7, A-7	0	0	90-100	80-100	75-10
	41-58	*Extremely paragravelly silty clay loam, paragravelly silty clay, very paragravelly silty clay loam, paragravelly silty clay loam, silty clay loam, silty clay	*CL	*A-7, A-7	0	0	90-100	80-100	75-10
	58-68	*Weathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	10	40
	In				Pct	Pct			
125B:									
Siletz----------	0-9	*Medial silt loam	*OH, MH	*A-5	0	0	90-100	85-100	80-10
	9-19	*Medial silt loam	*MH, OH	*A-5	0	0	90-100	85-100	80-10
	19-32	*Silty clay loam, very fine sandy loam, fine sandy loam	*CL, SM	*A-4, A-2, A-6	0	0	85-100	80-100	55-10
	32-41	*Clay loam, very fine sandy loam, fine sandy loam	*CL, SM	*A-4, A-6, A-2	0	0	85-100	80-100	55-10
	41-52	*Fine sandy loam, gravelly fine sandy loam	*SM, ML, GM	*A-4, A-1	0	0-10	60-100	55-100	35-85
	52-60	*Extremely gravelly loamy sand, extremely gravelly sandy loam	*GP, GM	*A-1	0	0-15	15-30	10-25	5-20
126B:									
Siletz, warm----	0-9	*Medial silt loam	*OH, MH	*A-5	0	0	90-100	85-100	80-10
	9-19	*Medial silt loam	*MH, OH	*A-5	0	0	90-100	85-100	80-10
	19-32	*Silty clay loam, very fine sandy loam, fine sandy loam	*CL, SM	*A-4, A-2, A-6	0	0	85-100	80-100	55-10
	32-41	*Clay loam, very fine sandy loam, fine sandy loam	*CL, SM	*A-4, A-6, A-2	0	0	85-100	80-100	55-10
	41-52	*Fine sandy loam, gravelly fine sandy loam	*SM, ML, GM	*A-4, A-1	0	0-10	60-100	55-100	35-85
	52-60	*Extremely gravelly loamy sand, extremely gravelly sandy loam	*GP, GM	*A-1	0	0-15	15-30	10-25	5-20

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	10	40
	In				Pct	Pct			
127C:									
Condorbridge, warm-----------	0-5	*Gravelly medial loam	*SM, GM, MH, OH	*A-5	0	0	60-80	55-75	45-70
	5-12	*Gravelly medial loam, medial silt loam, paragravelly medial silt loam, medial loam, paragravelly silt loam, gravelly loam, loam, silt loam	*SM, GM, MH, OH	*A-5	0	0	60-100	55-100	45-10
	12-26	*Gravelly loam, silt loam, paragravelly silt loam, loam	*GM, SM, ML	*A-4, A-5	0	0	60-100	55-100	45-10
	26-35	*Paragravelly clay loam, clay loam, gravelly clay loam, gravelly loam, silty clay loam	*CL, SC, GC, ML, SM, GM	*A-6, A-7, A-4, A-2	0	0-15	50-100	45-100	35-10
	35-53	*Paragravelly clay loam, silty clay loam, gravelly loam, gravelly clay loam, clay loam	*CL, GM, SM, ML, GC, SC	*A-6, A-7, A-4, A-2	0	0-15	50-100	45-100	35-10
	53-60	*Paragravelly clay loam, silty clay loam, gravelly loam, gravelly clay loam, clay loam	*CL, GM, SM, ML, GC, SC	*A-6, A-7, A-4, A-2	0	0-15	50-100	45-100	35-10
128B:									
Siletz----------	0-9	*Medial silt loam	*OH, MH	*A-5	0	0	90-100	85-100	80-10
	9-19	*Medial silt loam	*MH, OH	*A-5	0	0	90-100	85-100	80-10
	19-32	*Silty clay loam, very fine sandy loam, fine sandy loam	*CL, SM	*A-4, A-2, A-6	0	0	85-100	80-100	55-10
	32-41	*Clay loam, very fine sandy loam, fine sandy loam	*CL, SM	*A-4, A-6, A-2	0	0	85-100	80-100	55-10
	41-52	*Fine sandy loam, gravelly fine sandy loam	*SM, ML, GM	*A-4, A-1	0	0-10	60-100	55-100	35-85
	52-60	*Extremely gravelly loamy sand, extremely gravelly sandy loam	*GP, GM	*A-1	0	0-15	15-30	10-25	5-20

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	10	40
	In				Pct	Pct			
128B:									
Wolfer----------	0-8	*Medial silt loam	*OH, MH	*A-5	0	0	70-100	65-100	55-95
	8-14	*Medial silt loam	*MH, OH	*A-5	0	0	70-100	65-100	55-95
	14-22	*Medial silt loam	*MH	*A-5	0	0	70-100	65-100	55-95
	22-35	*Medial silty clay loam, gravelly medial clay loam, gravelly medial loam, medial loam	*MH, GM	*A-5, A-1	0	0-15	40-100	35-100	35-95
	35-60	*Extremely gravelly loam, extremely gravelly sandy loam, extremely gravelly loamy sand	*GP-GM, GM	*A-1	0	0-30	15-30	10-25	10-25
144F:									
Harslow, south slopes---------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-7	*Extremely gravelly medial loam	*GP-GM, GM	*A-1	0	0-20	20-35	15-30	15-25
	7-13	*Extremely gravelly medial loam, very gravelly medial loam	*GM, GP-GM	*A-1, A-2	0	0-20	20-50	15-45	15-40
	13-22	*Extremely gravelly medial loam, extremely cobbly medial loam, very cobbly medial loam, very gravelly medial loam	*GM, SM, SP-SM, GP-GM	*A-1, A-2	0	0-50	20-60	15-55	15-50
	22-37	*Extremely gravelly medial loam, extremely cobbly medial loam	*GP-GM, GM	*A-1, A-2	0	0-50	20-45	15-40	15-35
	37-41	*Unweathered bedrock	---	---	---	---	---	---	---
Rock outcrop, south slopes---	0-60	*Unweathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	10	40
	In				*Pct*	*Pct*			
144F:									
Klistan, south slopes---------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-7	*Very gravelly medial loam	*GM	*A-1, A-2	0	0-15	35-60	30-55	25-45
	7-14	*Very gravelly medial loam	*GM	*A-2, A-1	0	0-15	35-60	30-55	25-45
	14-26	*Very gravelly medial loam, extremely cobbly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-2, A-1	0	0-50	25-60	20-55	15-50
	26-36	*Extremely gravelly medial loam, extremely cobbly medial loam, very cobbly medial loam, very gravelly medial loam	*GM, GP-GM	*A-1, A-2	0	0-50	25-60	20-55	15-50
	36-44	*Extremely gravelly medial loam, very gravelly medial loam, very cobbly medial loam, extremely cobbly medial loam	*GM, GP-GM	*A-1, A-2	0	0-50	25-60	20-55	15-50
	44-48	*Unweathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
145F:									
Rock outcrop----	0-60	*Unweathered bedrock	---	---	---	---	---	---	---
Harslow---------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-7	*Extremely gravelly medial loam	*GP-GM, GM	*A-1	0	0-20	20-35	15-30	15-25
	7-13	*Extremely gravelly medial loam, very gravelly medial loam	*GM, GP-GM	*A-1, A-2	0	0-20	20-50	15-45	15-40
	13-22	*Extremely gravelly medial loam, extremely cobbly medial loam, very cobbly medial loam, very gravelly medial loam	*GM, SM, SP-SM, GP-GM	*A-1, A-2	0	0-50	20-60	15-55	15-50
	22-37	*Extremely gravelly medial loam, extremely cobbly medial loam	*GP-GM, GM	*A-1, A-2	0	0-50	20-45	15-40	15-35
	37-41	*Unweathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	10	40
	In				*Pct*	*Pct*			
156F:									
Sevencedars-----	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-6	*Gravelly medial loam	*SM, MH	*A-5	0-5	5-10	65-80	60-75	50-70
	6-13	*Very cobbly medial loam, gravelly medial loam, cobbly medial loam	*GM	*A-5, A-2	0-15	5-50	55-80	45-75	40-65
	13-28	*Very cobbly medial loam, very cobbly medial sandy loam, extremely cobbly medial sandy loam, very gravelly medial loam, very gravelly medial sandy loam	*GM, GP-GM	*A-5, A-2, A-1	0-15	10-50	35-70	25-65	20-50
	28-53	*Very cobbly medial loam, very cobbly medial sandy loam, extremely cobbly medial sandy loam, very gravelly medial loam, very gravelly medial sandy loam	*GM, GP-GM	*A-5, A-2, A-1	0-15	10-50	35-70	25-65	20-50
	53-68	*Very gravelly medial sandy loam, very cobbly medial loam, very cobbly medial sandy loam, extremely cobbly medial sandy loam, very gravelly medial loam	*GM, GP-GM	*A-1, A-2, A-5	0-15	10-50	35-70	25-65	20-50
Newanna---------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-11	*Very cobbly medial loam	*GM	*A-5, A-2	0	25-40	45-70	40-65	35-60
	11-32	*Very cobbly medial loam, very gravelly medial loam, extremely cobbly medial loam	*GM	*A-2, A-5, A-1	0	15-45	30-70	25-65	20-60
	32-38	*Very cobbly medial loam, very gravelly medial loam, extremely cobbly medial loam	*GM	*A-2, A-5, A-1	0	15-45	30-70	25-65	20-60
	38-42	*Unweathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40
	In				Pct	Pct			
157D:									
Caterl, till substratum-----	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-100
	1-5	*Very cobbly medial loam	*GM	*A-5, A-2	0	30-45	50-70	45-65	40-60
	5-17	*Very cobbly medial loam	*GM	*A-5, A-2	0	30-45	50-70	45-65	40-60
	17-42	*Very cobbly medial loam, extremely cobbly medial loam, extremely gravelly medial loam	*GM	*A-2, A-1, A-5	0	20-45	30-75	25-65	20-60
	42-62	*Extremely cobbly medial loam, extremely gravelly medial loam, extremely cobbly loam, extremely gravelly loam	*GM, GP-GM	*A-1, A-2	0-10	20-45	20-45	20-40	15-35
157E:									
Caterl, till substratum-----	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-100
	1-5	*Very cobbly medial loam	*GM	*A-5, A-2	0	30-45	50-70	45-65	40-60
	5-17	*Very cobbly medial loam	*GM	*A-5, A-2	0	30-45	50-70	45-65	40-60
	17-42	*Very cobbly medial loam, extremely cobbly medial loam, extremely gravelly medial loam	*GM	*A-2, A-1, A-5	0	20-45	30-75	25-65	20-60
	42-62	*Extremely cobbly medial loam, extremely gravelly medial loam, extremely cobbly loam, extremely gravelly loam	*GM, GP-GM	*A-1, A-2	0-10	20-45	20-45	20-40	15-35

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
157F:									
Caterl, till substratum-----	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-5	*Very cobbly medial loam	*GM	*A-5, A-2	0	30-45	50-70	45-65	40-60
	5-17	*Very cobbly medial loam	*GM	*A-5, A-2	0	30-45	50-70	45-65	40-60
	17-42	*Very cobbly medial loam, extremely cobbly medial loam, extremely gravelly medial loam	*GM	*A-2, A-1, A-5	0	20-45	30-75	25-65	20-60
	42-62	*Extremely cobbly medial loam, extremely gravelly medial loam, extremely cobbly loam, extremely gravelly loam	*GM, GP-GM	*A-1, A-2	0-10	20-45	20-45	20-40	15-35

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
158D:									
Sevencedars, till substratum	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-6	*Very cobbly medial loam	*GM	*A-5, A-2	0-15	30-50	50-75	40-65	35-60
	6-13	*Very cobbly medial loam, cobbly medial loam, very gravelly medial loam, gravelly medial loam	*GM	*A-5, A-2	0-15	30-50	50-75	40-65	35-60
	13-28	*Very cobbly medial loam, very cobbly medial sandy loam, extremely cobbly medial sandy loam, very gravelly medial loam, very gravelly medial sandy loam	*GM, GP-GM	*A-5, A-2, A-1	0-15	10-50	35-70	25-65	20-50
	28-53	*Very cobbly medial loam, very cobbly medial sandy loam, extremely cobbly medial sandy loam, very gravelly medial loam, very gravelly medial sandy loam	*GM, GP-GM	*A-5, A-1, A-2	0-15	10-50	35-70	25-65	20-50
	53-68	*Very gravelly sandy loam, very cobbly loam, very cobbly sandy loam, extremely cobbly sandy loam, very gravelly loam	*GM, GP-GM	*A-1, A-2, A-5	0-15	10-50	35-70	25-65	20-50

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	10	40
	In				*Pct*	*Pct*			
158E:									
Sevencedars, till substratum	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-6	*Very cobbly medial loam	*GM	*A-5, A-2	0-15	30-50	50-75	40-65	35-60
	6-13	*Very cobbly medial loam, cobbly medial loam, very gravelly medial loam, gravelly medial loam	*GM	*A-5, A-2	0-15	30-50	50-75	40-65	35-60
	13-28	*Very cobbly medial loam, very cobbly medial sandy loam, extremely cobbly medial sandy loam, very gravelly medial loam, very gravelly medial sandy loam	*GM, GP-GM	*A-5, A-2, A-1	0-15	10-50	35-70	25-65	20-50
	28-53	*Very cobbly medial loam, very cobbly medial sandy loam, extremely cobbly medial sandy loam, very gravelly medial loam, very gravelly medial sandy loam	*GM, GP-GM	*A-5, A-2, A-1	0-15	10-50	35-70	25-65	20-50
	53-68	*Very gravelly sandy loam, very cobbly loam, very cobbly sandy loam, extremely cobbly sandy loam, very gravelly loam	*GM, GP-GM	*A-1, A-2, A-5	0-15	10-50	35-70	25-65	20-50

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
158F: Sevencedars, till substratum	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-6	*Very cobbly medial loam	*GM	*A-5, A-2	0-15	30-50	50-75	40-65	35-60
	6-13	*Very cobbly medial loam, cobbly medial loam, very gravelly medial loam, gravelly medial loam	*GM	*A-5, A-2	0-15	30-50	50-75	40-65	35-60
	13-28	*Very cobbly medial loam, very cobbly medial sandy loam, extremely cobbly medial sandy loam, very gravelly medial loam, very gravelly medial sandy loam	*GM, GP-GM	*A-5, A-2, A-1	0-15	10-50	35-70	25-65	20-50
	28-53	*Very cobbly medial loam, very cobbly medial sandy loam, extremely cobbly medial sandy loam, very gravelly medial loam, very gravelly medial sandy loam	*GM, GP-GM	*A-5, A-2, A-1	0-15	10-50	35-70	25-65	20-50
	53-68	*Very gravelly sandy loam, very cobbly loam, very cobbly sandy loam, extremely cobbly sandy loam, very gravelly loam	*GM, GP-GM	*A-1, A-2, A-5	0-15	10-50	35-70	25-65	20-50

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
159D:									
Sevencedars,									
clayey---------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-6	*Very cobbly medial loam	*GM	*A-2, A-5	0-15	20-50	50-75	40-65	35-60
	6-13	*Very cobbly medial loam, very gravelly medial loam	*GM	*A-2, A-5	0-15	20-50	50-75	40-65	35-60
	13-28	*Very cobbly medial clay loam, very gravelly medial clay loam	*GM	*A-2, A-5	0-15	10-50	50-75	40-65	35-65
	28-53	*Very cobbly medial clay loam, very gravelly medial clay loam	*GM	*A-2, A-5	0-15	10-50	50-75	40-65	35-65
	53-68	*Very cobbly clay loam, very gravelly clay loam	*GM, GP-GM	*A-2, A-5	0-15	10-50	50-75	20-65	15-65

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	Percentage pass sieve number: 10	Percentage pass sieve number: 40
	In				Pct	Pct			
161D:									
Sevencedars-----	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-6	*Gravelly medial loam	*SM, MH	*A-5	0-5	5-10	65-80	60-75	50-70
	6-13	*Very cobbly medial loam, gravelly medial loam, cobbly medial loam	*GM	*A-5, A-2	0-15	5-50	55-80	45-75	40-65
	13-28	*Very cobbly medial loam, very cobbly medial sandy loam, extremely cobbly medial sandy loam, very gravelly medial loam, very gravelly medial sandy loam	*GM, GP-GM	*A-5, A-2, A-1	0-15	10-50	35-70	25-65	20-50
	28-53	*Very cobbly medial loam, very cobbly medial sandy loam, extremely cobbly medial sandy loam, very gravelly medial loam, very gravelly medial sandy loam	*GM, GP-GM	*A-5, A-2, A-1	0-15	10-50	35-70	25-65	20-50
	53-68	*Very gravelly medial sandy loam, very cobbly medial loam, very cobbly medial sandy loam, extremely cobbly medial sandy loam, very gravelly medial loam	*GM, GP-GM	*A-1, A-2, A-5	0-15	10-50	35-70	25-65	20-50
Newanna---------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-11	*Very cobbly medial loam	*GM	*A-5, A-2	0	25-40	45-70	40-65	35-60
	11-32	*Very cobbly medial loam, very gravelly medial loam, extremely cobbly medial loam	*GM	*A-2, A-5, A-1	0	15-45	30-70	25-65	20-60
	32-38	*Very cobbly medial loam, very gravelly medial loam, extremely cobbly medial loam	*GM	*A-2, A-5, A-1	0	15-45	30-70	25-65	20-60
	38-42	*Unweathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
161D:									
Woodspoint------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-7	*Medial silt loam	*MH	*A-5	0	0-15	90-100	85-100	70-10
	7-19	*Medial silt loam, medial loam	*MH	*A-5	0	0-15	90-100	85-100	70-10
	19-29	*Medial silt loam, cobbly medial silt loam, gravelly medial silt loam, medial loam, cobbly medial loam, paragravelly medial loam, gravelly medial loam	*MH, SM, GM	*A-5	0-15	0-35	70-100	60-100	50-10
	29-38	*Gravelly medial loam, medial silt loam, cobbly medial silt loam, gravelly medial silt loam, medial loam, cobbly medial loam, paragravelly medial loam	*SM, GM, MH	*A-5	0-15	0-35	70-100	60-100	50-10
	38-49	*Gravelly medial silt loam, medial silt loam, cobbly medial silt loam, medial loam, cobbly medial loam, paragravelly medial loam	*MH, SM, GM	*A-5	0-15	0-35	70-100	60-100	50-10
	49-53	*Unweathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
161E:									
Sevencedars-----	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-6	*Gravelly medial loam	*SM, MH	*A-5	0-5	5-10	65-80	60-75	50-70
	6-13	*Very cobbly medial loam, gravelly medial loam, cobbly medial loam	*GM	*A-5, A-2	0-15	5-50	55-80	45-75	40-65
	13-28	*Very cobbly medial loam, very cobbly medial sandy loam, extremely cobbly medial sandy loam, very gravelly medial loam, very gravelly medial sandy loam	*GM, GP-GM	*A-5, A-2, A-1	0-15	10-50	35-70	25-65	20-50
	28-53	*Very cobbly medial loam, very cobbly medial sandy loam, extremely cobbly medial sandy loam, very gravelly medial loam, very gravelly medial sandy loam	*GM, GP-GM	*A-5, A-2, A-1	0-15	10-50	35-70	25-65	20-50
	53-68	*Very gravelly medial sandy loam, very cobbly medial loam, very cobbly medial sandy loam, extremely cobbly medial sandy loam, very gravelly medial loam	*GM, GP-GM	*A-1, A-2, A-5	0-15	10-50	35-70	25-65	20-50
Newanna---------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-11	*Very cobbly medial loam	*GM	*A-5, A-2	0	25-40	45-70	40-65	35-60
	11-32	*Very cobbly medial loam, very gravelly medial loam, extremely cobbly medial loam	*GM	*A-2, A-5, A-1	0	15-45	30-70	25-65	20-60
	32-38	*Very cobbly medial loam, very gravelly medial loam, extremely cobbly medial loam	*GM	*A-2, A-5, A-1	0	15-45	30-70	25-65	20-60
	38-42	*Unweathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				Pct	Pct			
161E:									
Woodspoint------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-100
	1-7	*Medial silt loam	*MH	*A-5	0	0-15	90-100	85-100	70-100
	7-19	*Medial silt loam, medial loam	*MH	*A-5	0	0-15	90-100	85-100	70-100
	19-29	*Medial silt loam, cobbly medial silt loam, gravelly medial silt loam, medial loam, cobbly medial loam, paragravelly medial loam, gravelly medial loam	*MH, SM, GM	*A-5	0-15	0-35	70-100	60-100	50-100
	29-38	*Gravelly medial loam, medial silt loam, cobbly medial silt loam, gravelly medial silt loam, medial loam, cobbly medial loam, paragravelly medial loam	*SM, GM, MH	*A-5	0-15	0-35	70-100	60-100	50-100
	38-49	*Gravelly medial silt loam, medial silt loam, cobbly medial silt loam, medial loam, cobbly medial loam, paragravelly medial loam	*MH, SM, GM	*A-5	0-15	0-35	70-100	60-100	50-100
	49-53	*Unweathered bedrock	---	---	---	---	---	---	---
161F:									
Newanna---------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-100
	1-11	*Very cobbly medial loam	*GM	*A-5, A-2	0	25-40	45-70	40-65	35-60
	11-32	*Very cobbly medial loam, very gravelly medial loam, extremely cobbly medial loam	*GM	*A-2, A-5, A-1	0	15-45	30-70	25-65	20-60
	32-38	*Very cobbly medial loam, very gravelly medial loam, extremely cobbly medial loam	*GM	*A-2, A-5, A-1	0	15-45	30-70	25-65	20-60
	38-42	*Unweathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
161F:									
Sevencedars-----	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-6	*Gravelly medial loam	*SM, MH	*A-5	0-5	5-10	65-80	60-75	50-70
	6-13	*Very cobbly medial loam, gravelly medial loam, cobbly medial loam	*GM	*A-5, A-2	0-15	5-50	55-80	45-75	40-65
	13-28	*Very cobbly medial loam, very cobbly medial sandy loam, extremely cobbly medial sandy loam, very gravelly medial loam, very gravelly medial sandy loam	*GM, GP-GM	*A-5, A-2, A-1	0-15	10-50	35-70	25-65	20-50
	28-53	*Very cobbly medial loam, very cobbly medial sandy loam, extremely cobbly medial sandy loam, very gravelly medial loam, very gravelly medial sandy loam	*GM, GP-GM	*A-5, A-2, A-1	0-15	10-50	35-70	25-65	20-50
	53-68	*Very gravelly medial sandy loam, very cobbly medial loam, very cobbly medial sandy loam, extremely cobbly medial sandy loam, very gravelly medial loam	*GM, GP-GM	*A-1, A-2, A-5	0-15	10-50	35-70	25-65	20-50
Rock outcrop----	0-60	*Unweathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	Percentage pass sieve number: 10	Percentage pass sieve number: 40
	In				Pct	Pct			
162D:									
Mosscreek-------	0-2	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	2-15	*Medial silt loam	*OH, MH	*A-5	0	0-15	90-100	85-100	75-10
	15-27	*Medial silt loam, gravelly medial silt loam, medial loam	*OH, MH	*A-5	0	0-15	80-100	75-100	70-10
	27-57	*Medial silt loam, gravelly medial loam, gravelly medial clay loam, medial silty clay loam, medial loam, medial clay loam	*MH, GM	*A-5	0	0-15	60-100	55-100	45-10
	57-65	*Gravelly medial loam, very gravelly medial loam, very gravelly medial clay loam, gravelly medial clay loam	*GM, MH	*A-5, A-2	0	0-15	40-80	35-75	30-75
Fawceter--------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-11	*Gravelly medial silt loam	*GM, MH, OH	*A-5	0	0-15	60-80	55-75	50-70
	11-29	*Very cobbly medial silt loam, very cobbly medial loam, very gravelly medial silt loam	*GM	*A-5, A-1, A-2	0	0-40	35-65	30-60	25-55
	29-41	*Very cobbly medial loam, extremely gravelly medial loam, extremely cobbly medial loam, very gravelly medial loam	*GM, GP-GM	*A-2, A-1, A-5	0-25	0-65	20-65	15-60	15-55
	41-57	*Extremely gravelly medial loam, very cobbly medial loam, very gravelly medial loam, extremely cobbly medial loam	*GM, GP-GM	*A-1, A-5, A-2	0-25	0-65	35-65	15-60	15-55
	57-61	*Unweathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass[ing] sieve number[--]: 4	10	40
	In				Pct	Pct			
162E:									
Mosscreek--------	0-2	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10[0]
	2-15	*Medial silt loam	*OH, MH	*A-5	0	0-15	90-100	85-100	75-10[0]
	15-27	*Medial silt loam, gravelly medial silt loam, medial loam	*OH, MH	*A-5	0	0-15	80-100	75-100	70-10[0]
	27-57	*Medial silt loam, gravelly medial loam, gravelly medial clay loam, medial silty clay loam, medial loam, medial clay loam	*MH, GM	*A-5	0	0-15	60-100	55-100	45-10[0]
	57-65	*Gravelly medial loam, very gravelly medial loam, very gravelly medial clay loam, gravelly medial clay loam	*GM, MH	*A-5, A-2	0	0-15	40-80	35-75	30-75
Fawceter---------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10[0]
	1-11	*Gravelly medial silt loam	*GM, MH, OH	*A-5	0	0-15	60-80	55-75	50-70
	11-29	*Very cobbly medial silt loam, very cobbly medial loam, very gravelly medial silt loam	*GM	*A-5, A-1, A-2	0	0-40	35-65	30-60	25-55
	29-41	*Very cobbly medial loam, extremely gravelly medial loam, extremely cobbly medial loam, very gravelly medial loam	*GM, GP-GM	*A-2, A-1, A-5	0-25	0-65	20-65	15-60	15-55
	41-57	*Extremely gravelly medial loam, very cobbly medial loam, very gravelly medial loam, extremely cobbly medial loam	*GM, GP-GM	*A-1, A-5, A-2	0-25	0-65	35-65	15-60	15-55
	57-61	*Unweathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
163F:									
Fawceter--------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-11	*Gravelly medial silt loam	*GM, MH, OH	*A-5	0	0-15	60-80	55-75	50-70
	11-29	*Very cobbly medial silt loam, very cobbly medial loam, very gravelly medial silt loam	*GM	*A-5, A-1, A-2	0	0-40	35-65	30-60	25-55
	29-41	*Very cobbly medial loam, extremely gravelly medial loam, extremely cobbly medial loam, very gravelly medial loam	*GM, GP-GM	*A-2, A-1, A-5	0-25	0-65	20-65	15-60	15-55
	41-57	*Extremely gravelly medial loam, very cobbly medial loam, very gravelly medial loam, extremely cobbly medial loam	*GM, GP-GM	*A-1, A-5, A-2	0-25	0-65	35-65	15-60	15-55
	57-61	*Unweathered bedrock	---	---	---	---	---	---	---
Killam----------	0-2	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	2-14	*Extremely gravelly medial loam	*GM, GP-GM	*A-1	0-15	0-30	20-35	15-30	15-25
	14-23	*Extremely gravelly medial loam, extremely cobbly medial loam	*GM, GP-GM	*A-1, A-2	0-15	0-65	20-50	15-45	15-40
	23-31	*Extremely gravelly medial loam, extremely cobbly medial loam	*GM, GP-GM	*A-1, A-2	0-15	0-65	20-50	15-45	15-40
	31-35	*Unweathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
163F:									
Mosscreek-------	0-2	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	2-15	*Medial silt loam	*OH, MH	*A-5	0	0-15	90-100	85-100	75-10
	15-27	*Medial silt loam, gravelly medial silt loam, medial loam	*OH, MH	*A-5	0	0-15	80-100	75-100	70-10
	27-57	*Medial silt loam, gravelly medial loam, gravelly medial clay loam, medial silty clay loam, medial loam, medial clay loam	*MH, GM	*A-5	0	0-15	60-100	55-100	45-10
	57-65	*Gravelly medial loam, very gravelly medial loam, very gravelly medial clay loam, gravelly medial clay loam	*GM, MH	*A-5, A-2	0	0-15	40-80	35-75	30-75
164F:									
Killam----------	0-2	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	2-14	*Extremely gravelly medial loam	*GM, GP-GM	*A-1	0-15	0-30	20-35	15-30	15-25
	14-23	*Extremely gravelly medial loam, extremely cobbly medial loam	*GM, GP-GM	*A-1, A-2	0-15	0-65	20-50	15-45	15-40
	23-31	*Extremely gravelly medial loam, extremely cobbly medial loam	*GM, GP-GM	*A-1, A-2	0-15	0-65	20-50	15-45	15-40
	31-35	*Unweathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				Pct	Pct			
164F:									
Fawceter--------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-11	*Gravelly medial silt loam	*GM, MH, OH	*A-5	0	0-15	60-80	55-75	50-70
	11-29	*Very cobbly medial silt loam, very cobbly medial loam, very gravelly medial silt loam	*GM	*A-5, A-1, A-2	0	0-40	35-65	30-60	25-55
	29-41	*Very cobbly medial loam, extremely gravelly medial loam, extremely cobbly medial loam, very gravelly medial loam	*GM, GP-GM	*A-2, A-1, A-5	0-25	0-65	20-65	15-60	15-55
	41-57	*Extremely gravelly medial loam, very cobbly medial loam, very gravelly medial loam, extremely cobbly medial loam	*GM, GP-GM	*A-1, A-5, A-2	0-25	0-65	35-65	15-60	15-55
	57-61	*Unweathered bedrock	---	---	---	---	---	---	---
Rock outcrop----	0-60	*Unweathered bedrock	---	---	---	---	---	---	---
166F:									
Rock outcrop----	0-60	*Unweathered bedrock	---	---	---	---	---	---	---
Killam----------	0-2	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	2-14	*Extremely gravelly medial loam	*GM, GP-GM	*A-1	0-15	0-30	20-35	15-30	15-25
	14-23	*Extremely gravelly medial loam, extremely cobbly medial loam	*GM, GP-GM	*A-1, A-2	0-15	0-65	20-50	15-45	15-40
	23-31	*Extremely gravelly medial loam, extremely cobbly medial loam	*GM, GP-GM	*A-1, A-2	0-15	0-65	20-50	15-45	15-40
	31-35	*Unweathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	10	40
	In				Pct	Pct			
170A:									
Logsden---------	0-8	*Silt loam	*CL, CL-ML	*A-4	0	0	100	100	90-10
	8-17	*Silt loam	*CL, CL-ML	*A-4	0	0	100	100	90-10
	17-37	*Silty clay loam, silt loam	*CL	*A-6, A-4	0	0	100	100	90-10
	37-60	*Silty clay loam, silt loam	*CL	*A-6, A-4	0	0	100	100	90-10
170B:									
Logsden---------	0-8	*Silt loam	*CL, CL-ML	*A-4	0	0	100	100	90-10
	8-17	*Silt loam	*CL, CL-ML	*A-4	0	0	100	100	90-10
	17-37	*Silty clay loam, silt loam	*CL	*A-6, A-4	0	0	100	100	90-10
	37-60	*Silty clay loam, silt loam	*CL	*A-6, A-4	0	0	100	100	90-10
Nehalem, occasional flooding-------	0-9	*Silt loam	*ML, CL-ML	*A-4	0	0	100	100	90-10
	9-16	*Silt loam	*ML, CL-ML	*A-4	0	0	100	100	90-10
	16-48	*Silt loam, silty clay loam	*CL-ML, CL	*A-4, A-6	0	0	100	100	90-10
	48-60	*Silt loam, loam, silty clay loam, fine sandy loam, very fine sandy loam	*CL-ML, CL, ML, SC-SM, SM	*A-4, A-6	0	0	100	100	70-10
173B:									
Tillamook-------	0-8	*Medial silt loam	*OH, MH	*A-5	0	0	80-100	75-100	65-10
	8-20	*Medial silt loam	*MH, OH	*A-5	0	0	80-100	75-100	65-10
	20-25	*Medial silt loam, medial silty clay loam	*MH	*A-5	0	0	80-100	75-100	65-10
	25-35	*Silty clay loam, clay loam	*CL	*A-4, A-6	0	0	85-100	80-100	75-10
	35-52	*Silty clay loam, clay loam	*CL	*A-6	0	0	85-100	80-100	75-10
	52-60	*Silty clay loam, clay loam	*CL	*A-6	0	0	85-100	80-100	75-10

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	Percentage pass sieve number: 10	Percentage pass sieve number: 40
	In				*Pct*	*Pct*			
173B:									
Ginger----------	0-8	*Medial silt loam	*OH, MH	*A-5	0	0	80-100	75-100	65-10
	8-17	*Medial silt loam	*MH, OH	*A-5	0	0	80-100	75-100	65-10
	17-20	*Silty clay loam	*CL	*A-6	0	0	85-100	80-100	75-10
	20-28	*Silty clay, silty clay loam	*CL	*A-7	0	0	85-100	80-100	75-10
	28-38	*Silty clay, silty clay loam	*CL	*A-7	0	0	85-100	80-100	75-10
	38-52	*Silty clay, silty clay loam	*CL	*A-7	0	0	85-100	80-100	75-10
	52-60	*Extremely gravelly sandy loam, loamy sand, sandy loam, extremely gravelly loamy sand	*GP-GM, SP, SP-SM, SM, GP, GM	*A-1, A-4, A-2	0	0-15	20-100	15-100	10-75
173C:									
Tillamook-------	0-8	*Medial silt loam	*OH, MH	*A-5	0	0	80-100	75-100	65-10
	8-20	*Medial silt loam	*MH, OH	*A-5	0	0	80-100	75-100	65-10
	20-25	*Medial silt loam, medial silty clay loam	*MH	*A-5	0	0	80-100	75-100	65-10
	25-35	*Silty clay loam, clay loam	*CL	*A-4, A-6	0	0	85-100	80-100	75-10
	35-52	*Silty clay loam, clay loam	*CL	*A-6	0	0	85-100	80-100	75-10
	52-60	*Silty clay loam, clay loam	*CL	*A-6	0	0	85-100	80-100	75-10
Ginger----------	0-8	*Medial silt loam	*OH, MH	*A-5	0	0	80-100	75-100	65-10
	8-17	*Medial silt loam	*MH, OH	*A-5	0	0	80-100	75-100	65-10
	17-20	*Silty clay loam	*CL	*A-6	0	0	85-100	80-100	75-10
	20-28	*Silty clay, silty clay loam	*CL	*A-7	0	0	85-100	80-100	75-10
	28-38	*Silty clay, silty clay loam	*CL	*A-7	0	0	85-100	80-100	75-10
	38-52	*Silty clay, silty clay loam	*CL	*A-7	0	0	85-100	80-100	75-10
	52-60	*Extremely gravelly sandy loam, loamy sand, sandy loam, extremely gravelly loamy sand	*GP-GM, SP, SP-SM, SM, GP, GM	*A-1, A-4, A-2	0	0-15	20-100	15-100	10-75

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				Pct	Pct			
174C: Typic Fulvudands, terraces-------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-8	*Medial loam, medial silt loam	*OH, MH	*A-5	0	0-15	90-100	85-100	70-95
	8-21	*Medial loam, medial silt loam, gravelly medial silt loam	*MH, SM, GM	*A-5	0	0-15	65-100	60-100	55-95
	21-35	*Medial loam, medial silt loam, very cobbly medial loam, very gravelly medial loam, medial clay loam	*MH, GM, SM	*A-5, A-1, A-2	0	0-50	40-100	35-95	30-95
	35-45	*Very cobbly medial loam, gravelly medial loam, medial loam, very gravelly medial loam, cobbly medial clay loam	*GM, MH, SM	*A-5, A-1, A-2	0	0-50	40-100	35-95	30-90
	45-53	*Extremely cobbly loam, extremely cobbly loamy sand, extremely gravelly loamy sand, extremely cobbly fine sandy loam	*GM, GP, GP-GM	*A-1	0-15	0-50	15-40	10-35	5-35
	53-61	*Extremely cobbly fine sandy loam, extremely gravelly loamy sand, extremely cobbly loamy sand	*GP-GM, GM, GP	*A-1	0-15	0-50	15-40	10-35	5-30

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	10	40
	In				*Pct*	*Pct*			
174C: Typic Fulvudands, fans-----------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-14	*Gravelly medial loam, gravelly medial silt loam	*GM, SM, OH, MH	*A-5	0	0-5	55-80	50-75	40-70
	14-34	*Very gravelly medial loam, gravelly medial loam, gravelly medial clay loam, extremely gravelly medial loam	*GM, SP-SM, GP-GM, MH, SM	*A-1, A-5, A-2	0	0-15	25-80	20-75	15-75
	34-48	*Very gravelly medial loam, extremely gravelly medial loam, gravelly medial clay loam, gravelly medial loam	*GM, SM, MH, GP-GM, SP-SM	*A-1, A-2, A-5	0	0-15	25-80	20-75	15-75
	48-61	*Gravelly medial clay loam, extremely gravelly medial loam, gravelly medial loam, very gravelly medial loam	*GM, SM, MH, GP-GM, SP-SM	*A-2, A-1, A-5	0	0-15	25-80	20-75	15-75
175D: Astoria---------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-8	*Medial silt loam	*MH, OH	*A-5	0	0	80-100	75-100	70-10
	8-12	*Silty clay loam, silt loam, medial silt loam	*MH	*A-5	0	0	80-100	75-100	70-10
	12-25	*Silty clay loam, paragravelly clay, silty clay	*CL, ML	*A-6, A-7	0	0	85-100	80-100	70-10
	25-37	*Paragravelly silty clay loam, paragravelly silty clay, clay	*CL, ML	*A-7, A-6	0	0	85-100	80-100	70-10
	37-51	*Extremely paragravelly clay loam, very paragravelly clay loam, silty clay loam	*CL	*A-6, A-7	0	0	85-100	80-100	70-10
	51-61	*Weathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				Pct	Pct			
176D:									
Preacher--------	0-2	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	2-13	*Medial loam	*MH	*A-5	0	0	80-100	75-100	70-95
	13-21	*Clay loam, very paragravelly clay loam, paragravelly clay loam, paragravelly loam, very paragravelly loam, loam	*CL	*A-4, A-6	0	0	85-100	80-100	70-10
	21-38	*Very paragravelly clay loam, clay loam, paragravelly clay loam, paragravelly loam, very paragravelly loam	*CL	*A-6	0	0	85-100	80-100	70-10
	38-52	*Extremely paragravelly clay loam, very paragravelly clay loam, paragravelly clay loam, clay loam, very paragravelly loam, loam, extremely paragravelly loam	*CL, CL-ML	*A-6, A-4	0	0	85-100	80-100	70-10
	52-62	*Weathered bedrock	---	---	---	---	---	---	---
Bohannon--------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-13	*Medial loam	*MH	*A-5	0	0	80-100	75-100	65-95
	13-26	*Paragravelly clay loam, paragravelly loam, clay loam	*CL	*A-4, A-6	0	0-5	85-100	80-100	65-10
	26-38	*Very paragravelly clay loam, loam, paragravelly loam, very paragravelly loam, clay loam	*CL	*A-6	0	0-5	85-100	80-100	65-10
	38-48	*Weathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
176E:									
Preacher--------	0-2	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	2-13	*Medial loam	*MH	*A-5	0	0	80-100	75-100	70-95
	13-21	*Clay loam, very paragravelly clay loam, paragravelly clay loam, paragravelly loam, very paragravelly loam, loam	*CL	*A-4, A-6	0	0	85-100	80-100	70-10
	21-38	*Very paragravelly clay loam, clay loam, paragravelly clay loam, paragravelly loam, very paragravelly loam	*CL	*A-6	0	0	85-100	80-100	70-10
	38-52	*Extremely paragravelly clay loam, very paragravelly clay loam, paragravelly clay loam, clay loam, very paragravelly loam, loam, extremely paragravelly loam	*CL, CL-ML	*A-6, A-4	0	0	85-100	80-100	70-10
	52-62	*Weathered bedrock	---	---	---	---	---	---	---
Bohannon--------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-13	*Medial loam	*MH	*A-5	0	0	80-100	75-100	65-95
	13-26	*Paragravelly clay loam, paragravelly loam, clay loam	*CL	*A-4, A-6	0	0-5	85-100	80-100	65-10
	26-38	*Very paragravelly clay loam, loam, paragravelly loam, very paragravelly loam, clay loam	*CL	*A-6	0	0-5	85-100	80-100	65-10
	38-48	*Weathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	10	40
	In				Pct	Pct			
177B:									
Dystrudepts-----	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-6	*Silty clay loam	*CL	*A-6	0	0	100	100	95-10
	6-22	*Silty clay loam	*CL	*A-6	0	0	100	100	95-10
	22-31	*Silty clay loam, clay, silty clay	*CL	*A-6, A-7	0	0	100	100	90-10
	31-39	*Clay, silty clay, silty clay loam	*CL	*A-7, A-6	0	0	100	100	90-10
	39-49	*Clay, silty clay, silty clay loam	*CL	*A-7, A-6	0	0	100	100	90-10
	49-61	*Silty clay loam	*CL	*A-6	0	0	100	100	95-10
Aquepts---------	0-6	*Silt loam	*ML, CL-ML	*A-4	0	0	100	100	90-10
	6-18	*Silty clay loam, silty clay	*CL	*A-6, A-7	0	0	100	100	95-10
	18-31	*Silty clay, silty clay loam	*CL	*A-7, A-6	0	0	100	100	95-10
	31-51	*Silty clay loam, silty clay	*CL, CH	*A-6, A-7	0	0	100	100	95-10
	51-60	*Clay loam, silty clay loam, silty clay, fine sandy loam	*CL, SM, SC-SM	*A-6, A-7	0	0	100	100	75-10
178B:									
Fluventic Humic Dystrudepts----	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-11	*Silt loam, loam	*ML, OL	*A-4	0	0-15	90-100	85-100	70-10
	11-35	*Silt loam, loam, cobbly loam, gravelly loam, very fine sandy loam	*ML, GM	*A-4, A-2	0	0-15	65-100	60-100	50-10
	35-40	*Loam, gravelly loam, cobbly loam, fine sandy loam	*ML, GM	*A-4, A-2	0	0-15	65-100	60-100	50-95
	40-61	*Extremely cobbly loam, fine sandy loam, extremely gravelly sandy loam, sandy loam, loam	*GW-GM, GP-GM, ML	*A-1, A-4	0-15	0-60	20-100	15-100	10-95

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number: 4	10	40
	In				*Pct*	*Pct*			
178B:									
Dystrudepts-----	0-12	*Silt loam, medial silt loam	*ML, MH	*A-4, A-5	0	0-15	90-100	85-100	75-10
	12-35	*Silt loam, loam, silty clay loam	*ML, CL, CL-ML	*A-4, A-6	0	0-15	90-100	85-100	70-10
	35-45	*Loam, silty clay loam, very gravelly loam, fine sandy loam	*ML, GM, SM, CL-ML, CL	*A-4, A-1, A-2, A-6	0	0-15	40-100	35-100	30-10
	45-63	*Fine sandy loam, extremely cobbly sandy loam, extremely gravelly loamy sand, loam, silty clay loam	*SM, GM, GP-GM, CL-ML, CL, ML	*A-4, A-1, A-2, A-6	0	0-50	20-100	15-100	10-10
Aquepts---------	0-8	*Silt loam	*ML	*A-4	0	0-15	90-100	85-100	75-10
	8-20	*Silty clay loam, silt loam, clay loam, loam	*CL, CL-ML	*A-6, A-4	0	0-15	90-100	85-100	70-10
	20-60	*Silty clay loam, cobbly fine sandy loam, gravelly sandy loam, paragravelly sandy clay loam, extremely cobbly sandy loam, extremely gravelly loamy sand, very gravelly fine sandy loam, very cobbly sandy clay loam	*CL, GM, SC, GP-GM, SC-SM, ML, CL-ML, SM	*A-6, A-2, A-1, A-4	0-10	0-50	20-100	15-100	10-10

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number--: 4	10	40
	In				Pct	Pct			
180D:									
Salander--------	0-2	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	2-14	*Medial loam	*OH, MH	*A-5	0	0-15	90-100	85-100	70-95
	14-25	*Medial loam	*MH	*A-5	0	0-15	90-100	85-100	70-95
	25-41	*Medial loam, paragravelly medial loam	*MH	*A-5	0	0-15	90-100	85-100	70-95
	41-52	*Paragravelly medial loam, medial loam, paragravelly medial clay loam, medial clay loam, gravelly medial clay loam, gravelly medial loam	*MH, GM, SM	*A-5	0	0-15	65-100	60-100	50-10
	52-66	*Paragravelly medial clay loam, gravelly medial loam, gravelly medial clay loam, medial clay loam, paragravelly medial loam, medial loam	*MH, GM, SM	*A-5	0	0-15	65-100	60-100	50-10
180E:									
Salander--------	0-2	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	2-14	*Medial loam	*OH, MH	*A-5	0	0-15	90-100	85-100	70-95
	14-25	*Medial loam	*MH	*A-5	0	0-15	90-100	85-100	70-95
	25-41	*Medial loam, paragravelly medial loam	*MH	*A-5	0	0-15	90-100	85-100	70-95
	41-52	*Paragravelly medial loam, medial loam, paragravelly medial clay loam, medial clay loam, gravelly medial clay loam, gravelly medial loam	*MH, GM, SM	*A-5	0	0-15	65-100	60-100	50-10
	52-66	*Paragravelly medial clay loam, gravelly medial loam, gravelly medial clay loam, medial clay loam, paragravelly medial loam, medial loam	*MH, GM, SM	*A-5	0	0-15	65-100	60-100	50-10

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	Percentage pass sieve number: 10	Percentage pass sieve number: 40
	In				*Pct*	*Pct*			
180E:									
Necanicum-------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-100
	1-10	*Very gravelly medial loam	*GM	*A-2, A-1	0-10	0-15	35-60	30-50	25-45
	10-18	*Very gravelly medial loam	*GM	*A-2, A-1	0-10	0-15	35-60	30-50	25-45
	18-27	*Very gravelly medial loam, extremely cobbly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-2, A-1, A-5	0-15	0-65	20-65	15-60	10-55
	27-49	*Extremely cobbly medial loam, very gravelly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-1, A-5, A-2	0-15	0-65	20-65	15-60	10-55
	49-71	*Extremely cobbly medial loam, very gravelly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-1, A-5, A-2	0-15	0-65	20-65	15-60	10-55

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
180F:									
Salander--------	0-2	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	2-14	*Medial loam	*OH, MH	*A-5	0	0-15	90-100	85-100	70-95
	14-25	*Medial loam	*MH	*A-5	0	0-15	90-100	85-100	70-95
	25-41	*Medial loam, paragravelly medial loam	*MH	*A-5	0	0-15	90-100	85-100	70-95
	41-52	*Paragravelly medial loam, medial loam, paragravelly medial clay loam, medial clay loam, gravelly medial clay loam, gravelly medial loam	*MH, GM, SM	*A-5	0	0-15	65-100	60-100	50-10
	52-66	*Paragravelly medial clay loam, gravelly medial loam, gravelly medial clay loam, medial clay loam, paragravelly medial loam, medial loam	*MH, GM, SM	*A-5	0	0-15	65-100	60-100	50-10

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	Percentage pass sieve number: 10	Percentage pass sieve number: 40
	In				*Pct*	*Pct*			
180F:									
Necanicum--------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-10	*Very gravelly medial loam	*GM	*A-2, A-1	0-10	0-15	35-60	30-50	25-45
	10-18	*Very gravelly medial loam	*GM	*A-2, A-1	0-10	0-15	35-60	30-50	25-45
	18-27	*Very gravelly medial loam, extremely cobbly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-2, A-1, A-5	0-15	0-65	20-65	15-60	10-55
	27-49	*Extremely cobbly medial loam, very gravelly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-1, A-5, A-2	0-15	0-65	20-65	15-60	10-55
	49-71	*Extremely cobbly medial loam, very gravelly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-1, A-5, A-2	0-15	0-65	20-65	15-60	10-55
Neskowin---------	0-2	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	2-8	*Medial loam	*OH, MH	*A-5	0	0-15	90-100	85-100	70-95
	8-15	*Medial loam, cobbly medial loam, gravelly medial loam, medial clay loam, cobbly medial clay loam, gravelly medial clay loam	*MH, SM, GM	*A-5	0	0-20	65-100	60-100	50-10
	15-28	*Gravelly medial loam, gravelly medial clay loam, cobbly medial clay loam, medial clay loam, medial loam, cobbly medial loam	*GM, SM, MH	*A-5	0	0-20	60-100	60-100	50-10
	28-32	*Unweathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
181E:									
Neskowin--------	0-2	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	2-8	*Medial loam	*OH, MH	*A-5	0	0-15	90-100	85-100	70-95
	8-15	*Medial loam, cobbly medial loam, gravelly medial loam, medial clay loam, cobbly medial clay loam, gravelly medial clay loam	*MH, SM, GM	*A-5	0	0-20	65-100	60-100	50-10
	15-28	*Gravelly medial loam, gravelly medial clay loam, cobbly medial clay loam, medial clay loam, medial loam, cobbly medial loam	*GM, SM, MH	*A-5	0	0-20	60-100	60-100	50-10
	28-32	*Unweathered bedrock	---	---	---	---	---	---	---
Salander--------	0-2	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	2-14	*Medial loam	*OH, MH	*A-5	0	0-15	90-100	85-100	70-95
	14-25	*Medial loam	*MH	*A-5	0	0-15	90-100	85-100	70-95
	25-41	*Medial loam, paragravelly medial loam	*MH	*A-5	0	0-15	90-100	85-100	70-95
	41-52	*Paragravelly medial loam, medial loam, paragravelly medial clay loam, medial clay loam, gravelly medial clay loam, gravelly medial loam	*MH, GM, SM	*A-5	0	0-15	65-100	60-100	50-10
	52-66	*Paragravelly medial clay loam, gravelly medial loam, gravelly medial clay loam, medial clay loam, paragravelly medial loam, medial loam	*MH, GM, SM	*A-5	0	0-15	65-100	60-100	50-10

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number: 4	10	40
	In				Pct	Pct			
181F:									
Neskowin--------	0-2	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	2-8	*Medial loam	*OH, MH	*A-5	0	0-15	90-100	85-100	70-95
	8-15	*Medial loam, cobbly medial loam, gravelly medial loam, medial clay loam, cobbly medial clay loam, gravelly medial clay loam	*MH, SM, GM	*A-5	0	0-20	65-100	60-100	50-10
	15-28	*Gravelly medial loam, gravelly medial clay loam, cobbly medial clay loam, medial clay loam, medial loam, cobbly medial loam	*GM, SM, MH	*A-5	0	0-20	60-100	60-100	50-10
	28-32	*Unweathered bedrock	---	---	---	---	---	---	---
Rock outcrop----	0-60	*Unweathered bedrock	---	---	---	---	---	---	---
Necanicum-------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-10	*Very gravelly medial loam	*GM	*A-2, A-1	0-10	0-15	35-60	30-50	25-45
	10-18	*Very gravelly medial loam	*GM	*A-2, A-1	0-10	0-15	35-60	30-50	25-45
	18-27	*Very gravelly medial loam, extremely cobbly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-2, A-1, A-5	0-15	0-65	20-65	15-60	10-55
	27-49	*Extremely cobbly medial loam, very gravelly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-1, A-5, A-2	0-15	0-65	20-65	15-60	10-55
	49-71	*Extremely cobbly medial loam, very gravelly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-1, A-5, A-2	0-15	0-65	20-65	15-60	10-55

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	Percentage pass sieve number: 10	Percentage pass sieve number: 40
	In				*Pct*	*Pct*			
182D:									
Neotsu----------	0-3	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	3-9	*Medial loam	*OH, SM	*A-5, A-2	0	0-10	80-100	75-100	55-95
	9-20	*Medial loam	*MH, OH, SM	*A-5, A-2	0	0-10	80-100	75-100	55-95
	20-32	*Cobbly medial loam, cobbly medial clay loam, gravelly medial clay loam, medial loam, medial clay loam, gravelly medial loam	*MH, GM, SM	*A-5, A-2	0	0-45	50-100	45-100	40-95
	32-42	*Weathered bedrock	---	---	---	---	---	---	---
Salander--------	0-2	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	2-14	*Medial loam	*OH, MH	*A-5	0	0-15	90-100	85-100	70-95
	14-25	*Medial loam	*MH	*A-5	0	0-15	90-100	85-100	70-95
	25-41	*Medial loam, paragravelly medial loam	*MH	*A-5	0	0-15	90-100	85-100	70-95
	41-52	*Paragravelly medial loam, medial loam, paragravelly medial clay loam, medial clay loam, gravelly medial clay loam, gravelly medial loam	*MH, GM, SM	*A-5	0	0-15	65-100	60-100	50-10
	52-66	*Paragravelly medial clay loam, gravelly medial loam, gravelly medial clay loam, medial clay loam, paragravelly medial loam, medial loam	*MH, GM, SM	*A-5	0	0-15	65-100	60-100	50-10

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass[ing] sieve number[...]: 4	10	40
	In				*Pct*	*Pct*			
183D:									
Winema----------	0-10	*Medial silt loam	*OH, MH	*A-5	0	0	100	100	90-10[...]
	10-21	*Medial silt loam, medial silty clay loam	*MH, OH	*A-5	0	0	100	100	90-10[...]
	21-28	*Silty clay loam	*CL	*A-6	0	0	100	100	95-10[...]
	28-42	*Silty clay, paragravelly silty clay, paragravelly silty clay loam, silty clay loam	*CL, CH	*A-7, A-6	0	0	100	100	95-10[...]
	42-60	*Very paragravelly silty clay, silty clay loam, silty clay, paragravelly silty clay, very paragravelly silty clay loam	*CL, CH	*A-7, A-6	0	0	100	100	95-10[...]
Fendall---------	0-8	*Medial silt loam	*OH, MH	*A-5	0	0	80-100	75-100	70-10[...]
	8-13	*Silt loam, medial silt loam	*MH	*A-5	0	0	80-100	75-100	70-10[...]
	13-17	*Silty clay loam, paragravelly silty clay loam	*CL	*A-6, A-7	0	0	85-100	80-100	75-10[...]
	17-27	*Paragravelly silty clay loam, very paragravelly clay, silty clay	*CL	*A-7	0	0	85-100	80-100	75-10[...]
	27-34	*Very paragravelly silty clay loam, clay, paragravelly silty clay	*CL	*A-7	0	0	85-100	80-100	75-10[...]
	34-44	*Weathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage pass sieve number: 4	10	40
	In				Pct	Pct			
185F:									
Udorthents, steep----------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-4	*Sandy loam	*SM, SC-SM	*A-2, A-1, A-4	0-10	0-10	85-100	80-100	45-70
	4-23	*Paragravelly sandy loam, very paracobbly sandy loam, paracobbly sandy loam, sandy loam	*SM, SC-SM	*A-2, A-4, A-1	0-10	0-10	85-100	80-100	45-70
	23-33	*Weathered bedrock	---	---	---	---	---	---	---
Rock outcrop----	0-60	*Unweathered bedrock	---	---	---	---	---	---	---
190D:									
Mulkey----------	0-10	*Medial loam	*OH, MH	*A-5	0	0-10	80-100	75-100	50-90
	10-19	*Gravelly medial loam, medial loam	*GM, MH	*A-5, A-2	0	0-25	50-100	45-100	40-90
	19-26	*Cobbly medial loam, gravelly medial sandy loam, medial sandy loam, medial loam, gravelly medial loam, cobbly medial sandy loam	*MH, GM	*A-5, A-2	0-15	15-50	60-100	55-100	35-90
	26-30	*Unweathered bedrock	---	---	---	---	---	---	---
191B:									
Siletz----------	0-9	*Medial silt loam	*OH, MH	*A-5	0	0	90-100	85-100	80-10
	9-19	*Medial silt loam	*MH, OH	*A-5	0	0	90-100	85-100	80-10
	19-32	*Silty clay loam, very fine sandy loam, fine sandy loam	*CL, SM	*A-4, A-2, A-6	0	0	85-100	80-100	55-10
	32-41	*Clay loam, very fine sandy loam, fine sandy loam	*CL, SM	*A-4, A-6, A-2	0	0	85-100	80-100	55-10
	41-52	*Fine sandy loam, gravelly fine sandy loam	*SM, ML, GM	*A-4, A-1	0	0-10	60-100	55-100	35-85
	52-60	*Extremely gravelly loamy sand, extremely gravelly sandy loam	*GP, GM	*A-1	0	0-15	15-30	10-25	5-20

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
191B:									
Euchre----------	0-8	*Medial silt loam	*OH, MH	*A-5	0	0	70-100	65-100	55-10
	8-14	*Medial silt loam	*MH, OH	*A-5	0	0	70-100	65-100	55-10
	14-24	*Silty clay loam, clay loam	*CL	*A-6	0	0	75-100	70-100	65-10
	24-39	*Silty clay loam, clay loam	*CL	*A-6	0	0	75-100	70-100	65-10
	39-55	*Stratified loam to fine sandy loam, clay loam, fine sandy loam	*CL-ML, SM, CL	*A-4, A-6	0	0	80-100	75-100	50-95
	55-60	*Extremely gravelly sandy loam, very gravelly sandy loam, loamy sand, gravelly loamy sand, sandy loam	*GW-GC, SC-SM, SP-SM, GP-GM	*A-1, A-4, A-2	0	0-15	30-100	25-100	10-70
192A: Yachats, occasional flooding-------	0-9	*Very fine sandy loam	*ML	*A-4	0	0	100	100	85-95
	9-19	*Loam, very fine sandy loam, silt loam, fine sandy loam	*ML, SM	*A-4	0	0	100	100	70-10
	19-39	*Fine sandy loam, very fine sandy loam, loamy fine sand	*SM, ML	*A-4, A-2	0	0	100	100	50-95
	39-54	*Fine sandy loam, very fine sandy loam, loamy fine sand	*SM, ML	*A-4, A-2	0	0	100	100	50-95
	54-60	*Very fine sandy loam, fine sandy loam, loamy fine sand	*ML, SM	*A-4, A-2	0	0	100	100	50-95

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	10	40
	In				*Pct*	*Pct*			
303F:									
Ascar-----------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-9	*Extremely gravelly medial loam	*GM, GP-GM	*A-1	0-10	10-25	15-35	10-30	10-25
	9-25	*Extremely cobbly medial loam, very cobbly medial loam, very gravelly medial loam, extremely gravelly medial loam	*GM, GP-GM	*A-1, A-2	0-10	10-45	25-60	15-50	15-45
	25-39	*Extremely cobbly medial loam, very cobbly medial loam, very gravelly medial loam, extremely gravelly medial loam	*GM, GP-GM	*A-1, A-2	0-10	15-55	25-60	15-50	15-45
	39-43	*Unweathered bedrock	---	---	---	---	---	---	---
Rock outcrop----	0-60	*Unweathered bedrock	---	---	---	---	---	---	---
307F:									
Braun-----------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-4	*Silt loam	*ML	*A-4	0	0	100	100	90-10
	4-10	*Silt loam, paracobbly silt loam, paragravelly silt loam	*ML	*A-4	0	0	100	100	90-10
	10-21	*Paragravelly silt loam, paracobbly silt loam, silt loam, very paracobbly silt loam	*ML	*A-4	0	0	100	100	90-10
	21-30	*Paragravelly silt loam, paracobbly silt loam, silt loam, very paracobbly silt loam	*ML	*A-4	0	0	100	100	90-10
	30-36	*Paragravelly silt loam, paracobbly silt loam, silt loam, very paracobbly silt loam	*ML	*A-4	0	0	100	100	90-10
	36-46	*Weathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
307F:									
Scaponia--------	0-2	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	2-9	*Silt loam	*ML	*A-4	0	0	100	100	90-10
	9-15	*Paragravelly silt loam, paragravelly loam, silt loam	*ML	*A-4	0	0	100	100	90-10
	15-26	*Paragravelly silt loam, loam, paragravelly loam, silt loam	*ML	*A-4	0	0	100	100	90-10
	26-45	*Very paragravelly silt loam, extremely paragravelly loam, very paragravelly loam	*ML	*A-4	0	0	100	100	90-10
	45-55	*Weathered bedrock	---	---	---	---	---	---	---
309D:									
Caterl----------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-6	*Gravelly medial loam	*GM	*A-5	0	0-15	60-80	55-75	45-65
	6-12	*Very gravelly medial loam, gravelly medial loam	*GM	*A-2, A-5	0	0-15	40-80	35-75	30-65
	12-18	*Very gravelly medial loam, gravelly medial loam	*GM	*A-2, A-5	0	0-15	40-80	35-75	30-65
	18-35	*Very gravelly medial loam, very cobbly medial loam, very gravelly medial clay loam, very cobbly medial clay loam	*GM	*A-1, A-5	0	0-45	40-70	35-65	30-60
	35-53	*Extremely cobbly medial loam, extremely gravelly medial loam	*GM, GP-GM	*A-1, A-2	0-15	0-45	20-45	15-40	15-35
	53-57	*Unweathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	Percentage pass sieve number: 10	Percentage pass sieve number: 40
	In				Pct	Pct			
309D:									
Laderly---------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-13	*Very gravelly medial loam	*GM	*A-1, A-2	0	0-15	40-60	35-45	30-40
	13-22	*Very gravelly medial loam, extremely cobbly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-1, A-2	0	0-65	35-70	15-65	10-55
	22-30	*Extremely cobbly medial loam, extremely gravelly medial loam, very cobbly medial loam, very gravelly medial loam	*GM, GP-GM	*A-1, A-2	0-15	25-65	25-70	15-65	10-55
	30-34	*Unweathered bedrock	---	---	---	---	---	---	---
309E:									
Caterl----------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-6	*Gravelly medial loam	*GM	*A-5	0	0-15	60-80	55-75	45-65
	6-12	*Very gravelly medial loam, gravelly medial loam	*GM	*A-2, A-5	0	0-15	40-80	35-75	30-65
	12-18	*Very gravelly medial loam, gravelly medial loam	*GM	*A-2, A-5	0	0-15	40-80	35-75	30-65
	18-35	*Very gravelly medial loam, very cobbly medial loam, very gravelly medial clay loam, very cobbly medial clay loam	*GM	*A-1, A-5	0	0-45	40-70	35-65	30-60
	35-53	*Extremely cobbly medial loam, extremely gravelly medial loam	*GM, GP-GM	*A-1, A-2	0-15	0-45	20-45	15-40	15-35
	53-57	*Unweathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				Pct	Pct			
309E:									
Laderly---------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-13	*Very gravelly medial loam	*GM	*A-1, A-2	0	0-15	40-60	35-45	30-40
	13-22	*Very gravelly medial loam, extremely cobbly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-1, A-2	0	0-65	35-70	15-65	10-55
	22-30	*Extremely cobbly medial loam, extremely gravelly medial loam, very cobbly medial loam, very gravelly medial loam	*GM, GP-GM	*A-1, A-2	0-15	25-65	25-70	15-65	10-55
	30-34	*Unweathered bedrock	---	---	---	---	---	---	---
314A:									
Croquib---------	0-2	*Medial silt loam	*OH, MH	*A-5	0	0	100	100	90-10
	2-6	*Medial silt loam	*OH, MH	*A-5	0	0	100	100	90-10
	6-13	*Medial silty clay loam	*MH, OH	*A-5	0	0	100	100	90-10
	13-24	*Medial silty clay loam	*MH	*A-5	0	0	100	100	90-10
	24-34	*Medial silty clay loam	*MH	*A-5	0	0	100	100	90-10
	34-60	*Extremely gravelly loam	*GC, GP-GC	*A-2, A-1	0	10-25	20-40	15-35	5-30
322F:									
Harslow---------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-7	*Extremely gravelly medial loam	*GP-GM, GM	*A-1	0	0-20	20-35	15-30	15-25
	7-13	*Extremely gravelly medial loam, very gravelly medial loam	*GM, GP-GM	*A-1, A-2	0	0-20	20-50	15-45	15-40
	13-22	*Extremely gravelly medial loam, extremely cobbly medial loam, very cobbly medial loam, very gravelly medial loam	*GM, SM, SP-SM, GP-GM	*A-1, A-2	0	0-50	20-60	15-55	15-50
	22-37	*Extremely gravelly medial loam, extremely cobbly medial loam	*GP-GM, GM	*A-1, A-2	0	0-50	20-45	15-40	15-35
	37-41	*Unweathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	Percentage pass sieve number: 10	Percentage pass sieve number: 40
	In				*Pct*	*Pct*			
322F:									
Kilchis----------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-7	*Very gravelly medial loam	*GM	*A-1, A-2	0	0-20	30-45	25-40	25-40
	7-11	*Very gravelly loam, extremely gravelly loam	*GC-GM, GP-GC, GC	*A-1, A-2	0	0-25	25-45	20-40	15-40
	11-19	*Extremely cobbly loam, extremely gravelly loam	*GC-GM, GC, GP-GC	*A-1, A-2	0	30-70	20-55	15-50	5-50
	19-23	*Unweathered bedrock	---	---	---	---	---	---	---
327:									
Dystrudepts, steep----------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-11	*Silt loam, medial silt loam	*ML, MH	*A-4, A-5	0	0-15	90-100	85-100	75-10
	11-21	*Silt loam, loam, silty clay loam	*ML, CL, CL-ML	*A-4, A-6	0	0-15	90-100	85-100	70-10
	21-29	*Loam, silty clay loam, very gravelly loam, fine sandy loam	*ML, GM, SM, CL-ML, CL	*A-4, A-1, A-2, A-6	0	0-15	40-100	35-100	30-10
	29-36	*Fine sandy loam, extremely cobbly sandy loam, extremely gravelly loamy sand, loam, silty clay loam	*SM, GM, GP-GM, CL-ML, CL, ML	*A-4, A-6, A-1, A-2	0	0-50	20-100	15-100	10-10
	36-46	*Weathered bedrock	---	---	---	---	---	---	---
328:									
Dystrudepts-----	0-12	*Silt loam, medial silt loam	*ML, MH	*A-4, A-5	0	0-15	90-100	85-100	75-10
	12-35	*Silt loam, loam, silty clay loam	*ML, CL, CL-ML	*A-4, A-6	0	0-15	90-100	85-100	70-10
	35-45	*Loam, silty clay loam, very gravelly loam, fine sandy loam	*ML, GM, SM, CL-ML, CL	*A-4, A-1, A-2, A-6	0	0-15	40-100	35-100	30-10
	45-63	*Fine sandy loam, extremely cobbly sandy loam, extremely gravelly loamy sand, loam, silty clay loam	*SM, GM, GP-GM, CL-ML, CL, ML	*A-4, A-6, A-1, A-2	0	0-50	20-100	15-100	10-10

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				Pct	Pct			
328:									
Humaquepts, isomesic-------	0-11	*Silty clay loam, silt loam	*CL, CL-ML	*A-4, A-6	0	0	100	100	90-10
	11-19	*Silty clay loam	*CL	*A-6	0	0	100	100	95-10
	19-30	*Silty clay, silty clay loam	*CL	*A-6, A-7	0	0	100	100	95-10
	30-50	*Silty clay, silty clay loam	*CL	*A-6, A-7	0	0	100	100	95-10
	50-60	*Silty clay loam, paragravelly silty clay loam	*CL	*A-6	0	0	100	100	95-10
329F:									
Kilchis---------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-7	*Very gravelly medial loam	*GM	*A-1, A-2	0	0-20	30-45	25-40	25-40
	7-11	*Very gravelly loam, extremely gravelly loam	*GC-GM, GP-GC, GC	*A-1, A-2	0	0-25	25-45	20-40	15-40
	11-19	*Extremely cobbly loam, extremely gravelly loam	*GC-GM, GP-GC, GC	*A-1, A-2	0	30-70	20-55	15-50	5-50
	19-23	*Unweathered bedrock	---	---	---	---	---	---	---
Rock outcrop----	0-60	*Unweathered bedrock	---	---	---	---	---	---	---
338F:									
Laderly---------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-13	*Very gravelly medial loam	*GM	*A-1, A-2	0	0-15	40-60	35-45	30-40
	13-22	*Very gravelly medial loam, extremely cobbly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-1, A-2	0	0-65	35-70	15-65	10-55
	22-30	*Extremely cobbly medial loam, extremely gravelly medial loam, very cobbly medial loam, very gravelly medial loam	*GM, GP-GM	*A-1, A-2	0-15	25-65	25-70	15-65	10-55
	30-34	*Unweathered bedrock	---	---	---	---	---	---	---
Rock outcrop----	0-60	*Unweathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
342D:									
McMille----------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-5	*Medial silt loam	*MH, ML	*A-5	0	0-15	90-100	80-100	70-10
	5-14	*Medial silt loam, silt loam	*MH, ML	*A-5	0	0-15	90-100	80-100	70-10
	14-20	*Silt loam, silty clay loam, paragravelly silt loam, paragravelly silty clay loam	*ML, CL	*A-4, A-6	0	0-15	90-100	80-100	70-10
	20-32	*Silty clay loam, silt loam, paragravelly silty clay loam, paragravelly silt loam	*CL, ML	*A-6, A-4	0	0-15	90-100	80-100	70-10
	32-45	*Paragravelly silty clay loam, very paragravelly silt loam, very paragravelly silty clay loam, silt loam, paragravelly silt loam, silty clay loam	*CL, ML	*A-6, A-4	0	0-15	90-100	80-100	70-10
	45-55	*Weathered bedrock	---	---	---	---	---	---	---
345A:									
Mues------------	0-6	*Medial silt loam	*MH, OH	*A-5	0	0	100	100	90-10
	6-11	*Medial silt loam	*MH, OH	*A-5	0	0	100	100	90-10
	11-25	*Medial silt loam	*MH	*A-5	0	0	100	100	90-10
	25-31	*Medial silt loam	*MH	*A-5	0	0	100	100	90-10
	31-36	*Medial silt loam	*MH	*A-5	0	0	100	100	90-10
	36-60	*Very gravelly loam, extremely gravelly loam	*GC, GP-GC	*A-2, A-1	0	10-25	15-45	10-40	5-40

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	Percentage pass sieve number: 10	Percentage pass sieve number: 40
	In				Pct	Pct			
346D:									
Murtip----------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-7	*Medial loam	*OH, MH	*A-5	0	0	90-100	85-100	75-95
	7-14	*Medial loam	*MH	*A-5	0	0	90-100	85-100	75-95
	14-24	*Medial loam, medial clay loam, gravelly medial loam, paragravelly medial loam	*MH, GM	*A-5	0	0-10	60-100	55-100	45-90
	24-43	*Medial loam, gravelly medial loam, medial clay loam, paragravelly medial loam	*MH, GM	*A-5	0	0-10	60-100	55-100	45-90
	43-50	*Gravelly medial loam, gravelly medial clay loam, very gravelly medial loam, very gravelly medial clay loam	*SM, MH, GM, ML	*A-5, A-2	0	0-20	35-80	30-75	30-70
	50-60	*Weathered bedrock	---	---	---	---	---	---	---
347E:									
Murtip----------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-7	*Medial loam	*OH, MH	*A-5	0	0	90-100	85-100	75-95
	7-14	*Medial loam	*MH	*A-5	0	0	90-100	85-100	75-95
	14-24	*Medial loam, medial clay loam, gravelly medial loam, paragravelly medial loam	*MH, GM	*A-5	0	0-10	60-100	55-100	45-90
	24-43	*Medial loam, gravelly medial loam, medial clay loam, paragravelly medial loam	*MH, GM	*A-5	0	0-10	60-100	55-100	45-90
	43-50	*Gravelly medial loam, gravelly medial clay loam, very gravelly medial loam, very gravelly medial clay loam	*SM, MH, GM, ML	*A-5, A-2	0	0-20	35-80	30-75	30-70
	50-60	*Weathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage pass sieve number 4	10	40
	In				Pct	Pct			
347E:									
Caterl----------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-6	*Gravelly medial loam	*GM	*A-5	0	0-15	60-80	55-75	45-65
	6-12	*Very gravelly medial loam, gravelly medial loam	*GM	*A-2, A-5	0	0-15	40-80	35-75	30-65
	12-18	*Very gravelly medial loam, gravelly medial loam	*GM	*A-2, A-5	0	0-15	40-80	35-75	30-65
	18-35	*Very gravelly medial loam, very cobbly medial loam, very gravelly medial clay loam, very cobbly medial clay loam	*GM	*A-1, A-5	0	0-45	40-70	35-65	30-60
	35-53	*Extremely cobbly medial loam, extremely gravelly medial loam	*GM, GP-GM	*A-1, A-2	0-15	0-45	20-45	15-40	15-35
	53-57	*Unweathered bedrock	---	---	---	---	---	---	---
350E:									
Necanicum-------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-10	*Very gravelly medial loam	*GM	*A-2, A-1	0-10	0-15	35-60	30-50	25-45
	10-18	*Very gravelly medial loam	*GM	*A-2, A-1	0-10	0-15	35-60	30-50	25-45
	18-27	*Very gravelly medial loam, extremely cobbly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-2, A-1, A-5	0-15	0-65	20-65	15-60	10-55
	27-49	*Extremely cobbly medial loam, very gravelly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-1, A-5, A-2	0-15	0-65	20-65	15-60	10-55
	49-71	*Extremely cobbly medial loam, very gravelly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-1, A-5, A-2	0-15	0-65	20-65	15-60	10-55

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	Percentage pass sieve number: 10	Percentage pass sieve number: 40
	In				*Pct*	*Pct*			
350E:									
Ascar-----------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-9	*Extremely gravelly medial loam	*GM, GP-GM	*A-1	0-10	10-25	15-35	10-30	10-25
	9-25	*Extremely cobbly medial loam, very cobbly medial loam, very gravelly medial loam, extremely gravelly medial loam	*GM, GP-GM	*A-1, A-2	0-10	10-45	25-60	15-50	15-45
	25-39	*Extremely cobbly medial loam, very cobbly medial loam, very gravelly medial loam, extremely gravelly medial loam	*GM, GP-GM	*A-1, A-2	0-10	15-55	25-60	15-50	15-45
	39-43	*Unweathered bedrock	---	---	---	---	---	---	---
356D:									
Rinearson-------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-6	*Silt loam	*CL, CL-ML	*A-4	0	0	100	100	90-10
	6-16	*Silt loam	*CL, CL-ML	*A-4	0	0	100	100	90-10
	16-27	*Paragravelly silty clay loam, paragravelly silt loam, silt loam, silty clay loam	*CL	*A-4, A-6	0	0	100	100	90-10
	27-39	*Paragravelly silty clay loam, paragravelly silt loam, silty clay loam, silt loam	*CL	*A-6, A-4	0	0	100	100	90-10
	39-52	*Very paragravelly silty clay loam, paracobbly silt loam, very paracobbly silty clay loam, paragravelly silty clay loam, paragravelly loam, paragravelly silt loam	*CL	*A-4, A-6	0	0	100	100	85-10
	52-62	*Weathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
357E:									
Scaponia--------	0-2	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	2-9	*Silt loam	*ML	*A-4	0	0	100	100	90-10
	9-15	*Paragravelly silt loam, paragravelly loam, silt loam	*ML	*A-4	0	0	100	100	90-10
	15-26	*Paragravelly silt loam, loam, paragravelly loam, silt loam	*ML	*A-4	0	0	100	100	90-10
	26-45	*Very paragravelly silt loam, extremely paragravelly loam, very paragravelly loam	*ML	*A-4	0	0	100	100	90-10
	45-55	*Weathered bedrock	---	---	---	---	---	---	---
Braun-----------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-4	*Silt loam	*ML	*A-4	0	0	100	100	90-10
	4-10	*Silt loam, paracobbly silt loam, paragravelly silt loam	*ML	*A-4	0	0	100	100	90-10
	10-21	*Paragravelly silt loam, paracobbly silt loam, silt loam, very paracobbly silt loam	*ML	*A-4	0	0	100	100	90-10
	21-30	*Paragravelly silt loam, paracobbly silt loam, silt loam, very paracobbly silt loam	*ML	*A-4	0	0	100	100	90-10
	30-36	*Paragravelly silt loam, paracobbly silt loam, silt loam, very paracobbly silt loam	*ML	*A-4	0	0	100	100	90-10
	36-46	*Weathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
358D:									
Skipanon--------	0-2	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	2-7	*Gravelly medial silt loam	*GM, OH	*A-5, A-2	0	0-15	45-70	40-65	35-65
	7-15	*Gravelly silt loam, gravelly medial silt loam	*MH, GM	*A-5, A-2	0	0-15	50-70	45-65	35-65
	15-29	*Gravelly clay loam, cobbly clay loam, cobbly silt loam, gravelly silt loam	*CL, GC-GM	*A-6, A-2	0-10	0-30	50-75	45-70	35-70
	29-44	*Gravelly clay loam, cobbly clay loam, cobbly silt loam, gravelly silt loam	*GC, GC-GM, CL	*A-6, A-2	0-10	0-30	50-75	45-70	35-70
	44-62	*Paragravelly clay loam, very paragravelly clay loam, paragravelly silt loam, very paragravelly silt loam, paragravelly silty clay loam, silty clay loam, clay loam	*CL, CL-ML	*A-6, A-4	0	0-10	90-100	85-100	80-10

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	10	40
	In				Pct	Pct			
358E:									
Skipanon--------	0-2	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	2-7	*Gravelly medial silt loam	*GM, OH	*A-5, A-2	0	0-15	45-70	40-65	35-65
	7-15	*Gravelly silt loam, gravelly medial silt loam	*MH, GM	*A-5, A-2	0	0-15	50-70	45-65	35-65
	15-29	*Gravelly clay loam, cobbly clay loam, cobbly silt loam, gravelly silt loam	*CL, GC-GM	*A-6, A-2	0-10	0-30	50-75	45-70	35-70
	29-44	*Gravelly clay loam, cobbly clay loam, cobbly silt loam, gravelly silt loam	*GC, GC-GM, CL	*A-6, A-2	0-10	0-30	50-75	45-70	35-70
	44-62	*Paragravelly clay loam, very paragravelly clay loam, paragravelly silt loam, very paragravelly silt loam, paragravelly silty clay loam, silty clay loam, clay loam	*CL, CL-ML	*A-6, A-4	0	0-10	90-100	85-100	80-10
359D:									
Svensen---------	0-3	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	3-11	*Medial loam	*MH, OH	*A-5	0	0	100	100	85-95
	11-20	*Loam, medial loam	*MH	*A-5	0	0	100	100	85-95
	20-41	*Loam, clay loam	*CL	*A-4, A-6	0	0	100	100	85-10
	41-63	*Fine sandy loam, paragravelly fine sandy loam, loam, sandy loam	*CL-ML, SC-SM, CL	*A-4	0	0	100	100	65-95

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				Pct	Pct			
359E:									
Svensen---------	0-3	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	3-11	*Medial loam	*MH, OH	*A-5	0	0	100	100	85-95
	11-20	*Loam, medial loam	*MH	*A-5	0	0	100	100	85-95
	20-41	*Loam, clay loam	*CL	*A-4, A-6	0	0	100	100	85-10
	41-63	*Fine sandy loam, paragravelly fine sandy loam, loam, sandy loam	*CL-ML, SC-SM, CL	*A-4	0	0	100	100	65-95
363D:									
Tolke-----------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-6	*Medial silt loam	*MH, OH	*A-5	0	0	100	95-100	85-95
	6-10	*Medial silt loam	*MH, OH	*A-5	0	0	100	95-100	85-95
	10-17	*Medial silty clay loam, medial silt loam	*MH	*A-5, A-7	0	0	100	100	95-10
	17-26	*Medial silty clay loam, medial silt loam	*MH	*A-5, A-7	0	0	100	100	95-10
	26-45	*Medial silty clay loam, medial silt loam	*MH	*A-5, A-7	0	0	100	100	95-10
	45-61	*Medial silty clay loam, medial silt loam	*MH	*A-5, A-7	0	0	100	100	95-10
371C:									
Walluski--------	0-2	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	2-13	*Medial silt loam	*MH, OH	*A-5	0	0	100	100	90-10
	13-27	*Silty clay loam, silt loam	*CL, CL-ML	*A-6, A-4	0	0	100	100	90-10
	27-36	*Silty clay loam, silt loam	*CL, CL-ML	*A-6, A-4	0	0	100	100	90-10
	36-62	*Silty clay loam, clay, silty clay	*CL, CH	*A-4, A-7	0	0	100	100	90-10

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passi sieve number-		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
403E:									
Astoria---------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-8	*Medial silt loam	*MH, OH	*A-5	0	0	80-100	75-100	70-10
	8-12	*Silty clay loam, silt loam, medial silt loam	*MH	*A-5	0	0	80-100	75-100	70-10
	12-25	*Silty clay loam, paragravelly clay, silty clay	*CL, ML	*A-6, A-7	0	0	85-100	80-100	70-10
	25-37	*Paragravelly silty clay loam, paragravelly silty clay, clay	*CL, ML	*A-7, A-6	0	0	85-100	80-100	70-10
	37-51	*Extremely paragravelly clay loam, very paragravelly clay loam, silty clay loam	*CL	*A-6, A-7	0	0	85-100	80-100	70-10
	51-61	*Weathered bedrock	---	---	---	---	---	---	---
420E:									
Hembre----------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-7	*Medial silt loam	*MH	*A-5	0	0-45	70-100	65-100	65-95
	7-14	*Silt loam, medial silt loam	*CL	*A-4	0	0-45	70-100	65-100	65-95
	14-19	*Silty clay loam, silt loam	*CL	*A-6, A-4	0	0-45	75-100	70-100	65-95
	19-28	*Silty clay loam, silt loam	*CL	*A-6, A-4	0	0-40	75-100	70-100	65-95
	28-43	*Gravelly silty clay loam, cobbly silt loam, gravelly silt loam, cobbly silty clay loam	*CL, SC, GC	*A-6, A-2, A-4	0	0-50	50-100	45-100	35-95
	43-47	*Unweathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
420F:									
Hembre----------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-7	*Medial silt loam	*MH	*A-5	0	0-45	70-100	65-100	65-95
	7-14	*Silt loam, medial silt loam	*CL	*A-4	0	0-45	70-100	65-100	65-95
	14-19	*Silty clay loam, silt loam	*CL	*A-6, A-4	0	0-45	75-100	70-100	65-95
	19-28	*Silty clay loam, silt loam	*CL	*A-6, A-4	0	0-40	75-100	70-100	65-95
	28-43	*Gravelly silty clay loam, cobbly silt loam, gravelly silt loam, cobbly silty clay loam	*CL, SC, GC	*A-6, A-2, A-4	0	0-50	50-100	45-100	35-95
	43-47	*Unweathered bedrock	---	---	---	---	---	---	---
425E:									
Klickitat-------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-5	*Very cobbly medial loam	*GM	*A-2, A-5, A-1	0-20	25-40	40-65	35-60	25-55
	5-13	*Very cobbly loam, very gravelly loam	*GC, GC-GM	*A-2, A-1, A-4	0-15	20-35	40-70	35-65	35-55
	13-19	*Very cobbly loam, extremely cobbly clay loam, very gravelly clay loam	*GC	*A-4, A-2, A-6	0-20	25-65	45-70	40-65	35-65
	19-42	*Extremely cobbly loam, very gravelly clay loam, very cobbly clay loam	*GC	*A-2, A-6	0-10	20-60	35-60	30-55	25-55
	42-46	*Unweathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				Pct	Pct			
433D:									
Melby-----------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-5	*Silt loam	*ML	*A-4	0	0	100	95-100	90-10
	5-10	*Silt loam	*ML	*A-4	0	0	100	95-100	90-10
	10-18	*Silty clay loam, paragravelly silty clay loam	*ML	*A-4	0	0	100	95-100	90-10
	18-26	*Silty clay loam, paragravelly silty clay loam	*ML	*A-4	0	0	100	95-100	90-10
	26-42	*Silty clay	*MH, ML	*A-7	0	0	100	95-100	90-10
	42-47	*Silty clay	*MH, ML	*A-7	0	0	100	95-100	90-10
	47-57	*Weathered bedrock	---	---	---	---	---	---	---
433E:									
Melby-----------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-5	*Silt loam	*ML	*A-4	0	0	100	95-100	90-10
	5-10	*Silt loam	*ML	*A-4	0	0	100	95-100	90-10
	10-18	*Silty clay loam, paragravelly silty clay loam	*ML	*A-4	0	0	100	95-100	90-10
	18-26	*Silty clay loam, paragravelly silty clay loam	*ML	*A-4	0	0	100	95-100	90-10
	26-42	*Silty clay	*MH, ML	*A-7	0	0	100	95-100	90-10
	42-47	*Silty clay	*MH, ML	*A-7	0	0	100	95-100	90-10
	47-57	*Weathered bedrock	---	---	---	---	---	---	---
439E:									
Tolke-----------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-6	*Medial silt loam	*MH, OH	*A-5	0	0	100	95-100	85-95
	6-10	*Medial silt loam	*MH, OH	*A-5	0	0	100	95-100	85-95
	10-17	*Medial silty clay loam, medial silt loam	*MH	*A-5, A-7	0	0	100	100	95-10
	17-26	*Medial silty clay loam, medial silt loam	*MH	*A-5, A-7	0	0	100	100	95-10
	26-45	*Medial silty clay loam, medial silt loam	*MH	*A-5, A-7	0	0	100	100	95-10
	45-61	*Medial silty clay loam, medial silt loam	*MH	*A-5, A-7	0	0	100	100	95-10

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass(ing) sieve number: 4	10	40
	In				Pct	Pct			
501D:									
Apt-------------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-6	*Silty clay loam	*CL	*A-6, A-4	0	0	85-100	80-100	80-10
	6-11	*Silty clay loam, paragravelly silty clay loam	*CL	*A-6, A-4	0	0	85-100	80-100	80-10
	11-18	*Silty clay, paragravelly silty clay, very paragravelly silty clay, clay	*CL, CH	*A-7	0	0	85-100	80-100	75-10
	18-27	*Silty clay, paragravelly silty clay, clay, very paragravelly silty clay	*CL, CH	*A-7	0	0	85-100	80-100	75-10
	27-37	*Clay, paragravelly silty clay, very paragravelly silty clay, silty clay	*CH, CL	*A-7	0	0	85-100	80-100	75-95
	37-51	*Clay, paragravelly silty clay, very paragravelly silty clay, silty clay	*CH, CL	*A-7	0	0	85-100	80-100	75-95
	51-66	*Silty clay loam, very paragravelly silty clay, paragravelly clay, extremely paragravelly silty clay	*CL	*A-6, A-7	0	0	85-100	80-100	75-95
McDuff----------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-9	*Silty clay loam	*CL	*A-4, A-6	0	0	95-100	90-100	85-10
	9-13	*Silty clay loam, paragravelly silty clay loam	*CL	*A-6	0	0	95-100	90-100	85-10
	13-21	*Paragravelly clay, clay, silty clay	*CL, CH	*A-7	0	0	95-100	90-100	85-10
	21-37	*Very paragravelly clay, very paragravelly silty clay, paragravelly silty clay, paragravelly clay	*CL, CH	*A-7	0	0	85-100	85-100	75-10
	37-47	*Weathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	10	40
	In				*Pct*	*Pct*			
501E:									
Apt-------------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-6	*Silty clay loam	*CL	*A-6, A-4	0	0	85-100	80-100	80-10
	6-11	*Silty clay loam, paragravelly silty clay loam	*CL	*A-6, A-4	0	0	85-100	80-100	80-10
	11-18	*Silty clay, paragravelly silty clay, very paragravelly silty clay, clay	*CL, CH	*A-7	0	0	85-100	80-100	75-10
	18-27	*Silty clay, paragravelly silty clay, clay, very paragravelly silty clay	*CL, CH	*A-7	0	0	85-100	80-100	75-10
	27-37	*Clay, paragravelly silty clay, very paragravelly silty clay, silty clay	*CH, CL	*A-7	0	0	85-100	80-100	75-95
	37-51	*Clay, paragravelly silty clay, very paragravelly silty clay, silty clay	*CH, CL	*A-7	0	0	85-100	80-100	75-95
	51-66	*Silty clay loam, very paragravelly silty clay, paragravelly clay, extremely paragravelly silty clay	*CL	*A-6, A-7	0	0	85-100	80-100	75-95
McDuff----------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-9	*Silty clay loam	*CL	*A-4, A-6	0	0	95-100	90-100	85-10
	9-13	*Silty clay loam, paragravelly silty clay loam	*CL	*A-6	0	0	95-100	90-100	85-10
	13-21	*Paragravelly clay, clay, silty clay	*CL, CH	*A-7	0	0	95-100	90-100	85-10
	21-37	*Very paragravelly clay, very paragravelly silty clay, paragravelly silty clay, paragravelly clay	*CL, CH	*A-7	0	0	85-100	85-100	75-10
	37-47	*Weathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	10	40
	In				*Pct*	*Pct*			
517A:									
Euchre----------	0-8	*Medial silt loam	*OH, MH	*A-5	0	0	70-100	65-100	55-10
	8-14	*Medial silt loam	*MH, OH	*A-5	0	0	70-100	65-100	55-10
	14-24	*Silty clay loam, clay loam	*CL	*A-6	0	0	75-100	70-100	65-10
	24-39	*Silty clay loam, clay loam	*CL	*A-6	0	0	75-100	70-100	65-10
	39-55	*Stratified loam to fine sandy loam, clay loam, fine sandy loam	*CL-ML, SM, CL	*A-4, A-6	0	0	80-100	75-100	50-95
	55-60	*Extremely gravelly sandy loam, very gravelly sandy loam, loamy sand, gravelly loamy sand, sandy loam	*GW-GC, SP-SM, SM, GP-GM	*A-1, A-4, A-2	0	0-15	30-100	25-100	10-70
519D:									
Fendall---------	0-8	*Medial silt loam	*OH, MH	*A-5	0	0	80-100	75-100	70-10
	8-13	*Silt loam, medial silt loam	*MH	*A-5	0	0	80-100	75-100	70-10
	13-17	*Silty clay loam, paragravelly silty clay loam	*CL	*A-6, A-7	0	0	85-100	80-100	75-10
	17-27	*Paragravelly silty clay loam, very paragravelly clay, silty clay	*ML, CL	*A-7	0	0	85-100	80-100	75-10
	27-34	*Very paragravelly silty clay loam, clay, paragravelly silty clay	*ML, CL	*A-7	0	0	85-100	80-100	75-10
	34-44	*Weathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	10	40
	In				*Pct*	*Pct*			
519D:									
Winema----------	0-10	*Medial silt loam	*OH, MH	*A-5	0	0	100	100	90-10
	10-21	*Medial silt loam, medial silty clay loam	*MH, OH	*A-5	0	0	100	100	90-10
	21-28	*Silty clay loam	*CL	*A-6	0	0	100	100	95-10
	28-42	*Silty clay, paragravelly silty clay, paragravelly silty clay loam, silty clay loam	*CL, CH	*A-7, A-6	0	0	100	100	95-10
	42-60	*Very paragravelly silty clay, silty clay loam, silty clay, paragravelly silty clay, very paragravelly silty clay loam	*CL, CH	*A-7, A-6	0	0	100	100	95-10
532D:									
Klootchie-------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-9	*Medial silt loam	*OH, MH	*A-5	0	0-10	90-100	85-100	75-10
	9-19	*Medial silt loam, medial loam	*MH	*A-5	0	0-10	90-100	85-100	70-10
	19-44	*Medial silty clay loam, gravelly medial silt loam, gravelly medial clay loam, gravelly medial silty clay loam, gravelly medial loam, medial loam, medial silt loam, medial clay loam	*MH, GM	*A-5	0	0-15	65-100	60-100	50-10
	44-68	*Medial silty clay loam, gravelly medial silt loam, gravelly medial clay loam, gravelly medial silty clay loam, gravelly medial loam, medial loam, medial silt loam, medial clay loam	*MH, GM	*A-5	0	0-15	65-100	60-100	50-10

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				Pct	Pct			
532D:									
Neotsu----------	0-3	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	3-9	*Medial loam	*OH, SM	*A-5, A-2	0	0-10	80-100	75-100	55-95
	9-20	*Medial loam	*MH, OH, SM	*A-5, A-2	0	0-10	80-100	75-100	55-95
	20-32	*Cobbly medial loam, cobbly medial clay loam, gravelly medial clay loam, medial loam, medial clay loam, gravelly medial loam	*MH, GM, SM	*A-5, A-2	0	0-45	50-100	45-100	40-95
	32-42	*Weathered bedrock	---	---	---	---	---	---	---
532E:									
Klootchie-------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-9	*Medial silt loam	*OH, MH	*A-5	0	0-10	90-100	85-100	75-10
	9-19	*Medial silt loam, medial loam	*MH	*A-5	0	0-10	90-100	85-100	70-10
	19-44	*Medial silty clay loam, gravelly medial silt loam, gravelly medial clay loam, gravelly medial silty clay loam, gravelly medial loam, medial loam, medial silt loam, medial clay loam	*MH, GM	*A-5	0	0-15	65-100	60-100	50-10
	44-68	*Medial silty clay loam, gravelly medial silt loam, gravelly medial clay loam, gravelly medial silty clay loam, gravelly medial loam, medial loam, medial silt loam, medial clay loam	*MH, GM	*A-5	0	0-15	65-100	60-100	50-10

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				Pct	Pct			
532E:									
Neotsu----------	0-3	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	3-9	*Medial loam	*OH, SM	*A-5, A-2	0	0-10	80-100	75-100	55-95
	9-20	*Medial loam	*MH, OH, SM	*A-5, A-2	0	0-10	80-100	75-100	55-95
	20-32	*Cobbly medial loam, cobbly medial clay loam, gravelly medial clay loam, medial loam, medial clay loam, gravelly medial loam	*MH, GM, SM	*A-5, A-2	0	0-45	50-100	45-100	40-95
	32-42	*Weathered bedrock	---	---	---	---	---	---	---
543F:									
Neotsu----------	0-3	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	3-9	*Medial loam	*OH, SM	*A-5, A-2	0	0-10	80-100	75-100	55-95
	9-20	*Medial loam	*MH, OH, SM	*A-5, A-2	0	0-10	80-100	75-100	55-95
	20-32	*Cobbly medial loam, cobbly medial clay loam, gravelly medial clay loam, medial loam, medial clay loam, gravelly medial loam	*MH, GM, SM	*A-5, A-2	0	0-45	50-100	45-100	40-95
	32-42	*Weathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
543F:									
Necanicum-------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-10	*Very gravelly medial loam	*GM	*A-2, A-1	0-10	0-15	35-60	30-50	25-45
	10-18	*Very gravelly medial loam	*GM	*A-2, A-1	0-10	0-15	35-60	30-50	25-45
	18-27	*Very gravelly medial loam, extremely cobbly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-2, A-1, A-5	0-15	0-65	20-65	15-60	10-55
	27-49	*Extremely cobbly medial loam, very gravelly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-1, A-5, A-2	0-15	0-65	20-65	15-60	10-55
	49-71	*Extremely cobbly medial loam, very gravelly medial loam, extremely gravelly medial loam, very cobbly medial loam	*GM, GP-GM	*A-1, A-5, A-2	0-15	0-65	20-65	15-60	10-55

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
552F:									
Reedsport-------	0-2	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	2-8	*Paragravelly medial loam	*OH, MH	*A-5	0	0	80-90	75-85	65-85
	8-16	*Paragravelly loam, loam, medial loam, paragravelly medial loam	*MH	*A-5	0	0	80-90	75-85	65-85
	16-26	*Very paragravelly loam, paragravelly loam, paragravelly clay loam, extremely paragravelly loam, gravelly clay loam	*CL, GC	*A-4, A-6, A-2	0	0-10	60-95	55-90	55-85
	26-34	*Extremely paragravelly clay loam, very paragravelly clay loam, gravelly loam, paragravelly clay loam	*CL, GC	*A-6, A-2, A-4	0	0-10	60-95	55-90	55-85
	34-44	*Weathered bedrock	---	---	---	---	---	---	---
Tolovana--------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-6	*Medial silt loam	*OH, MH	*A-5	0	0-15	90-100	85-100	75-10
	6-9	*Medial silt loam	*OH, MH	*A-5	0	0-15	90-100	85-100	75-10
	9-20	*Medial silt loam	*MH	*A-5	0	0-15	90-100	85-100	75-10
	20-27	*Silty clay loam, clay loam, paragravelly clay loam	*CL	*A-6, A-4	0	0-15	90-100	85-100	75-10
	27-38	*Silty clay loam, paragravelly clay loam, clay loam	*CL	*A-6, A-4	0	0-15	90-100	85-100	75-10
	38-48	*Paragravelly clay loam, silty clay loam, clay loam	*CL	*A-6, A-4	0	0-15	90-100	85-100	75-10
	48-60	*Very paragravelly clay loam, loam, paragravelly clay loam, very paragravelly loam, clay loam, gravelly loam, cobbly loam, cobbly clay loam	*CL, GC, CL-ML, SC, GC-GM, SC-SM	*A-6, A-4	0	0-20	70-100	65-100	55-10

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	Percentage pass sieve number: 10	Percentage pass sieve number: 40
	In				Pct	Pct			
555D:									
Templeton-------	0-2	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	2-15	*Medial silt loam	*OL, ML	*A-5	0	0	95-100	90-100	85-10
	15-28	*Silty clay loam, silt loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	28-43	*Silty clay loam, paragravelly silt loam, paragravelly silty clay loam, very paragravelly silty clay loam, silt loam, very paragravelly silt loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	43-54	*Silty clay loam, very paragravelly silt loam, very paragravelly silty clay loam, silt loam, paragravelly silt loam, paragravelly silty clay loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	54-59	*Paragravelly silty clay loam, very paragravelly silt loam, very paragravelly silty clay loam, silty clay loam, paragravelly silt loam, silt loam	*CL	*A-6, A-7	0	0	95-100	90-100	85-10
	59-69	*Weathered bedrock	---	---	---	---	---	---	---
Fendall---------	0-8	*Medial silt loam	*OH, MH	*A-5	0	0	80-100	75-100	70-10
	8-13	*Silt loam, medial silt loam	*MH	*A-5	0	0	80-100	75-100	70-10
	13-17	*Silty clay loam, paragravelly silty clay loam	*CL	*A-6, A-7	0	0	85-100	80-100	75-10
	17-27	*Paragravelly silty clay loam, very paragravelly clay, silty clay	*ML, CL	*A-7	0	0	85-100	80-100	75-10
	27-34	*Very paragravelly silty clay loam, clay, paragravelly silty clay	*ML, CL	*A-7	0	0	85-100	80-100	75-10
	34-44	*Weathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number: 4	10	40
	In				Pct	Pct			
556D:									
Tolovana--------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-6	*Medial silt loam	*OH, MH	*A-5	0	0-15	90-100	85-100	75-10
	6-9	*Medial silt loam	*OH, MH	*A-5	0	0-15	90-100	85-100	75-10
	9-20	*Medial silt loam	*MH	*A-5	0	0-15	90-100	85-100	75-10
	20-27	*Silty clay loam, clay loam, paragravelly clay loam	*CL	*A-6, A-4	0	0-15	90-100	85-100	75-10
	27-38	*Silty clay loam, paragravelly clay loam, clay loam	*CL	*A-6, A-4	0	0-15	90-100	85-100	75-10
	38-48	*Paragravelly clay loam, silty clay loam, clay loam	*CL	*A-6, A-4	0	0-15	90-100	85-100	75-10
	48-60	*Very paragravelly clay loam, loam, paragravelly clay loam, very paragravelly loam, clay loam, gravelly loam, cobbly loam, cobbly clay loam	*CL, GC, CL-ML, SC, GC-GM, SC-SM	*A-6, A-4	0	0-20	70-100	65-100	55-10
Reedsport-------	0-2	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	2-8	*Paragravelly medial loam	*OH, MH	*A-5	0	0	80-90	75-85	65-85
	8-16	*Paragravelly loam, loam, medial loam, paragravelly medial loam	*MH	*A-5	0	0	80-90	75-85	65-85
	16-26	*Very paragravelly loam, paragravelly loam, paragravelly clay loam, extremely paragravelly loam, gravelly clay loam	*CL, GC	*A-4, A-6, A-2	0	0-10	60-95	55-90	55-85
	26-34	*Extremely paragravelly clay loam, very paragravelly clay loam, gravelly loam, paragravelly clay loam	*CL, GC	*A-6, A-2, A-4	0	0-10	60-95	55-90	55-85
	34-44	*Weathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number: 4	Percentage pass sieve number: 10	Percentage pass sieve number: 40
	In				Pct	Pct			
556E:									
Tolovana--------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-6	*Medial silt loam	*OH, MH	*A-5	0	0-15	90-100	85-100	75-10
	6-9	*Medial silt loam	*OH, MH	*A-5	0	0-15	90-100	85-100	75-10
	9-20	*Medial silt loam	*MH	*A-5	0	0-15	90-100	85-100	75-10
	20-27	*Silty clay loam, clay loam, paragravelly clay loam	*CL	*A-6, A-4	0	0-15	90-100	85-100	75-10
	27-38	*Silty clay loam, paragravelly clay loam, clay loam	*CL	*A-6, A-4	0	0-15	90-100	85-100	75-10
	38-48	*Paragravelly clay loam, silty clay loam, clay loam	*CL	*A-6, A-4	0	0-15	90-100	85-100	75-10
	48-60	*Very paragravelly clay loam, loam, paragravelly clay loam, very paragravelly loam, clay loam, gravelly loam, cobbly loam, cobbly clay loam	*CL, GC, CL-ML, SC, GC-GM, SC-SM	*A-6, A-4	0	0-20	70-100	65-100	55-10
Reedsport-------	0-2	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	2-8	*Paragravelly medial loam	*OH, MH	*A-5	0	0	80-90	75-85	65-85
	8-16	*Paragravelly loam, loam, medial loam, paragravelly medial loam	*MH	*A-5	0	0	80-90	75-85	65-85
	16-26	*Very paragravelly loam, paragravelly loam, paragravelly clay loam, extremely paragravelly loam, gravelly clay loam	*CL, GC	*A-4, A-6, A-2	0	0-10	60-95	55-90	55-85
	26-34	*Extremely paragravelly clay loam, very paragravelly clay loam, gravelly loam, paragravelly clay loam	*CL, GC	*A-6, A-2, A-4	0	0-10	60-95	55-90	55-85
	34-44	*Weathered bedrock	---	---	---	---	---	---	---

Table 24.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass[ing] sieve number[--]: 4	10	40
	In				Pct	Pct			
611B:									
Dystrudepts, warm-----------	0-1	*Slightly decomposed plant material	*PT	*A-8	0	0	100	100	60-10
	1-6	*Silty clay loam	*CL	*A-6	0	0	100	100	95-10
	6-22	*Silty clay loam	*CL	*A-6	0	0	100	100	95-10
	22-31	*Silty clay loam, clay, silty clay	*CL	*A-6, A-7	0	0	100	100	90-10
	31-39	*Clay, silty clay, silty clay loam	*CL	*A-7, A-6	0	0	100	100	90-10
	39-49	*Clay, silty clay, silty clay loam	*CL	*A-7, A-6	0	0	100	100	90-10
	49-61	*Silty clay loam	*CL	*A-6	0	0	100	100	95-10
Aquepts, warm---	0-6	*Silt loam	*ML, CL-ML	*A-4	0	0	100	100	90-10
	6-18	*Silty clay loam, silty clay	*CL	*A-6, A-7	0	0	100	100	95-10
	18-31	*Silty clay, silty clay loam	*CL	*A-7, A-6	0	0	100	100	95-10
	31-51	*Silty clay loam, silty clay	*CL, CH	*A-6, A-7	0	0	100	100	95-10
	51-60	*Clay loam, silty clay loam, silty clay, fine sandy loam	*CL, SM, SC-SM	*A-6, A-7	0	0	100	100	75-10
Humaquepts, warm	0-11	*Silty clay loam, silt loam	*CL, CL-ML	*A-4, A-6	0	0	100	100	90-10
	11-19	*Silty clay loam	*CL	*A-6	0	0	100	100	95-10
	19-30	*Silty clay, silty clay loam	*CL	*A-6, A-7	0	0	100	100	95-10
	30-50	*Silty clay, silty clay loam	*CL	*A-6, A-7	0	0	100	100	95-10
	50-60	*Silty clay loam, paragravelly silty clay loam	*CL	*A-6	0	0	100	100	95-10
W:									
Water-----------	---	---	---	---	---	---	---	---	---

Table 25.--Physical Soil Properties

(Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility grou
erodibility index" apply only to the surface layer. Absence of an entry indicates that data wer

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion
								Kw
	In	Pct	g/cc	um/sec	In/in	Pct	Pct	
1A:								
Brenner--------------	0-7	20-25-27	1.00-1.20	4.00-14.00	0.19-0.21	3.0-5.9	5.0-10	.37
	7-12	20-28-30	1.00-1.35	1.40-14.00	0.19-0.21	3.0-5.9	5.0-10	.32
	12-18	20-29-35	1.00-1.35	1.40-14.00	0.19-0.21	3.0-5.9	2.0-5.0	.37
	18-26	20-32-35	1.00-1.35	1.40-14.00	0.19-0.21	3.0-5.9	2.0-5.0	.32
	26-40	20-35-35	1.00-1.35	1.40-14.00	0.19-0.21	3.0-5.9	1.0-5.0	.32
	40-55	27-42-50	1.20-1.35	0.42-4.00	0.15-0.21	3.0-8.9	0.5-3.0	.28
	55-60	27-45-50	1.20-1.35	0.42-4.00	0.15-0.21	3.0-8.9	0.5-3.0	.28
2A:								
Fluvaquents----------	0-4	20-22-27	0.80-1.10	4.00-14.00	0.19-0.21	0.0-2.9	4.0-12	.37
	4-7	20-24-27	0.80-1.10	4.00-14.00	0.19-0.21	0.0-2.9	3.0-12	.32
	7-22	20-25-35	0.90-1.20	1.40-14.00	0.15-0.21	0.0-2.9	3.0-12	.32
	22-25	10-10-35	0.90-1.35	1.40-42.00	0.10-0.21	0.0-5.9	3.0-12	.24
	25-45	15-20-35	0.90-1.35	1.40-42.00	0.14-0.21	0.0-5.9	3.0-12	.28
	45-60	5-5-35	0.90-1.35	1.40-141.00	0.05-0.21	0.0-5.9	3.0-12	.05
Histosols------------	0-7	10-25-35	0.10-0.20	4.00-14.00	0.30-0.60	---	65-95	---
	7-13	10-25-35	0.10-0.30	4.00-14.00	0.30-0.60	---	65-95	---
	13-20	10-25-35	0.10-0.30	4.00-14.00	0.30-0.60	---	65-95	---
	20-32	10-25-35	0.90-1.35	1.40-42.00	0.15-0.21	0.0-5.9	5.0-12	.37
	32-60	10-28-35	0.90-1.35	1.40-42.00	0.15-0.21	0.0-5.9	5.0-12	.37
3A:								
Coquille-------------	0-6	20-22-27	0.90-1.10	4.00-14.00	0.19-0.21	0.0-2.9	4.0-10	.37
	6-14	20-25-35	0.95-1.30	4.00-14.00	0.19-0.21	0.0-2.9	1.0-10	.37
	14-34	20-28-35	0.95-1.30	1.40-4.00	0.19-0.21	0.0-2.9	1.0-10	.37
	34-49	25-28-35	1.00-1.30	1.40-4.00	0.19-0.21	0.0-2.9	1.0-10	.37
	49-60	25-28-55	1.00-1.30	0.40-1.40	0.15-0.21	3.0-5.9	0.5-10	.37
4D:								
Ginsberg-------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-6	18-26-27	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	5.0-10	.37
	6-19	18-26-27	0.75-0.90	4.00-14.00	0.25-0.30	0.0-2.9	2.0-5.0	.37
	19-36	25-39-45	0.85-1.20	1.40-4.00	0.15-0.21	3.0-5.9	0.5-2.0	.32
	36-50	35-38-45	1.10-1.25	1.40-4.00	0.11-0.15	3.0-5.9	0.0-1.0	.32
	50-63	35-35-45	1.10-1.25	1.40-4.00	0.11-0.15	3.0-5.9	0.0-1.0	.37

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion Kw
	In	*Pct*	*g/cc*	*um/sec*	*In/in*	*Pct*	*Pct*	
4E:								
Ginsberg	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-6	18-26-27	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	5.0-10	.37
	6-19	18-26-27	0.75-0.90	4.00-14.00	0.25-0.30	0.0-2.9	2.0-5.0	.37
	19-36	25-39-45	0.85-1.20	1.40-4.00	0.15-0.21	3.0-5.9	0.5-2.0	.32
	36-50	35-38-45	1.10-1.25	1.40-4.00	0.11-0.15	3.0-5.9	0.0-1.0	.32
	50-63	35-35-45	1.10-1.25	1.40-4.00	0.11-0.15	3.0-5.9	0.0-1.0	.37
Klistan	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-7	12-15-18	0.70-0.85	4.00-14.00	0.15-0.20	0.0-2.9	5.0-10	.10
	7-14	18-18-25	0.75-0.85	4.00-14.00	0.15-0.20	0.0-2.9	3.0-10	.10
	14-26	18-18-25	0.75-0.85	4.00-14.00	0.05-0.08	0.0-2.9	3.0-5.0	.15
	26-36	18-18-25	0.75-0.90	4.00-14.00	0.05-0.08	0.0-2.9	1.0-3.0	.10
	36-44	18-22-25	0.75-0.90	4.00-14.00	0.05-0.08	0.0-2.9	0.0-1.0	.10
	44-48	---	---	---	---	---	---	---
5E:								
Ferrelo	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-19	10-15-18	1.10-1.30	4.00-14.00	0.16-0.18	0.0-2.9	4.0-8.0	.32
	19-37	10-10-18	1.10-1.40	4.00-14.00	0.13-0.18	0.0-2.9	2.0-4.0	.37
	37-55	2-5-10	1.40-1.55	14.00-42.00	0.05-0.11	0.0-2.9	0.5-2.0	.32
	55-89	2-2-10	1.40-1.55	14.00-42.00	0.05-0.11	0.0-2.9	0.0-1.0	.15
6D:								
Horseprairie	0-2	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	2-11	10-12-18	0.85-0.95	14.00-42.00	0.25-0.35	0.0-2.9	5.0-10	.32
	11-28	20-21-27	0.90-1.10	4.00-14.00	0.16-0.18	3.0-5.9	4.0-8.0	.28
	28-45	20-25-27	1.10-1.20	4.00-14.00	0.16-0.18	3.0-5.9	4.0-6.0	.24
	45-62	2-4-10	1.35-1.50	4.00-14.00	0.06-0.13	0.0-2.9	1.0-2.0	.28
Ferrelo	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-19	10-15-18	1.10-1.30	4.00-14.00	0.16-0.18	0.0-2.9	4.0-8.0	.32
	19-37	10-10-18	1.10-1.40	4.00-14.00	0.13-0.18	0.0-2.9	2.0-4.0	.37
	37-55	2-5-10	1.40-1.55	14.00-42.00	0.05-0.11	0.0-2.9	0.5-2.0	.32
	55-89	2-2-10	1.40-1.55	14.00-42.00	0.05-0.11	0.0-2.9	0.0-1.0	.15
7:								
Dune land	0-60	0-0-1	1.40-1.60	42.00-141.00	0.03-0.05	0.0-2.9	0.0-0.1	---
8A:								
Depoe	0-3	15-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	3-7	10-10-20	1.10-1.30	4.00-14.00	0.16-0.18	0.0-2.9	2.0-4.0	.49
	7-17	10-15-20	1.10-1.45	4.00-14.00	0.11-0.21	0.0-2.9	1.0-3.0	.55
	17-31	---	---	0.01-0.42	0.00-0.00	---	---	---
	31-60	1-3-5	1.40-1.60	42.00-141.00	0.04-0.08	0.0-2.9	0.0-1.0	.02

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion Kw
	In	*Pct*	*g/cc*	*um/sec*	*In/in*	*Pct*	*Pct*	
9B:								
Waldport-------------	0-2	1-3-5	1.40-1.55	42.00-141.00	0.03-0.05	0.0-2.9	3.0-8.0	.02
	2-6	1-3-5	1.40-1.55	42.00-141.00	0.03-0.05	0.0-2.9	1.0-5.0	.02
	6-18	1-2-5	1.40-1.55	42.00-141.00	0.03-0.05	0.0-2.9	0.0-1.0	.02
	18-60	1-1-5	1.40-1.55	42.00-141.00	0.03-0.05	0.0-2.9	0.0-1.0	.02
9C:								
Waldport-------------	0-2	1-3-5	1.40-1.55	42.00-141.00	0.03-0.05	0.0-2.9	3.0-8.0	.02
	2-6	1-3-5	1.40-1.55	42.00-141.00	0.03-0.05	0.0-2.9	1.0-5.0	.02
	6-18	1-2-5	1.40-1.55	42.00-141.00	0.03-0.05	0.0-2.9	0.0-1.0	.02
	18-60	1-1-5	1.40-1.55	42.00-141.00	0.03-0.05	0.0-2.9	0.0-1.0	.02
9D:								
Waldport-------------	0-2	1-3-5	1.40-1.55	42.00-141.00	0.03-0.05	0.0-2.9	3.0-8.0	.02
	2-6	1-3-5	1.40-1.55	42.00-141.00	0.03-0.05	0.0-2.9	1.0-5.0	.02
	6-18	1-2-5	1.40-1.55	42.00-141.00	0.03-0.05	0.0-2.9	0.0-1.0	.02
	18-60	1-1-5	1.40-1.55	42.00-141.00	0.03-0.05	0.0-2.9	0.0-1.0	.02
9E:								
Waldport-------------	0-2	1-3-5	1.40-1.55	42.00-141.00	0.03-0.05	0.0-2.9	3.0-8.0	.02
	2-6	1-3-5	1.40-1.55	42.00-141.00	0.03-0.05	0.0-2.9	1.0-5.0	.02
	6-18	1-2-5	1.40-1.55	42.00-141.00	0.03-0.05	0.0-2.9	0.0-1.0	.02
	18-60	1-1-5	1.40-1.55	42.00-141.00	0.03-0.05	0.0-2.9	0.0-1.0	.02
10B:								
Waldport, thin surface-------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-3	1-3-5	1.40-1.55	42.00-141.00	0.03-0.05	0.0-2.9	3.0-8.0	.02
	3-60	1-1-5	1.40-1.55	42.00-141.00	0.03-0.05	0.0-2.9	0.0-1.0	.02
10C:								
Waldport, thin surface-------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-3	1-3-5	1.40-1.55	42.00-141.00	0.03-0.05	0.0-2.9	3.0-8.0	.02
	3-60	1-1-5	1.40-1.55	42.00-141.00	0.03-0.05	0.0-2.9	0.0-1.0	.02
10E:								
Waldport, thin surface-------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-3	1-3-5	1.40-1.55	42.00-141.00	0.03-0.05	0.0-2.9	3.0-8.0	.02
	3-60	1-1-5	1.40-1.55	42.00-141.00	0.03-0.05	0.0-2.9	0.0-1.0	.02

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion Kw
	In	*Pct*	*g/cc*	*um/sec*	*In/in*	*Pct*	*Pct*	
11B:								
Netarts--------------	0-2	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	2-5	1-5-8	1.30-1.40	14.00-42.00	0.05-0.07	0.0-2.9	3.0-5.0	.20
	5-9	1-3-5	1.40-1.55	14.00-42.00	0.05-0.07	0.0-2.9	1.0-3.0	.20
	9-15	1-2-5	1.40-1.55	14.00-42.00	0.05-0.07	0.0-2.9	0.5-2.0	.24
	15-19	1-2-5	1.40-1.60	14.00-42.00	0.05-0.07	0.0-2.9	0.5-1.0	.05
	19-37	1-2-5	1.40-1.60	14.00-42.00	0.05-0.07	0.0-2.9	0.5-1.0	.15
	37-54	1-1-5	1.40-1.60	14.00-42.00	0.05-0.07	0.0-2.9	0.0-1.0	.15
	54-67	1-1-5	1.40-1.60	14.00-42.00	0.05-0.07	0.0-2.9	0.0-1.0	.05
11C:								
Netarts--------------	0-2	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	2-5	1-5-8	1.30-1.40	14.00-42.00	0.05-0.07	0.0-2.9	3.0-5.0	.20
	5-9	1-3-5	1.40-1.55	14.00-42.00	0.05-0.07	0.0-2.9	1.0-3.0	.20
	9-15	1-2-5	1.40-1.55	14.00-42.00	0.05-0.07	0.0-2.9	0.5-2.0	.24
	15-19	1-2-5	1.40-1.60	14.00-42.00	0.05-0.07	0.0-2.9	0.5-1.0	.05
	19-37	1-2-5	1.40-1.60	14.00-42.00	0.05-0.07	0.0-2.9	0.5-1.0	.15
	37-54	1-1-5	1.40-1.60	14.00-42.00	0.05-0.07	0.0-2.9	0.0-1.0	.15
	54-67	1-1-5	1.40-1.60	14.00-42.00	0.05-0.07	0.0-2.9	0.0-1.0	.05
11D:								
Netarts--------------	0-2	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	2-5	1-5-8	1.30-1.40	14.00-42.00	0.05-0.07	0.0-2.9	3.0-5.0	.20
	5-9	1-3-5	1.40-1.55	14.00-42.00	0.05-0.07	0.0-2.9	1.0-3.0	.20
	9-15	1-2-5	1.40-1.55	14.00-42.00	0.05-0.07	0.0-2.9	0.5-2.0	.24
	15-19	1-2-5	1.40-1.60	14.00-42.00	0.05-0.07	0.0-2.9	0.5-1.0	.05
	19-37	1-2-5	1.40-1.60	14.00-42.00	0.05-0.07	0.0-2.9	0.5-1.0	.15
	37-54	1-1-5	1.40-1.60	14.00-42.00	0.05-0.07	0.0-2.9	0.0-1.0	.15
	54-67	1-1-5	1.40-1.60	14.00-42.00	0.05-0.07	0.0-2.9	0.0-1.0	.05
11E:								
Netarts--------------	0-2	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	2-5	1-5-8	1.30-1.40	14.00-42.00	0.05-0.07	0.0-2.9	3.0-5.0	.20
	5-9	1-3-5	1.40-1.55	14.00-42.00	0.05-0.07	0.0-2.9	1.0-3.0	.20
	9-15	1-2-5	1.40-1.55	14.00-42.00	0.05-0.07	0.0-2.9	0.5-2.0	.24
	15-19	1-2-5	1.40-1.60	14.00-42.00	0.05-0.07	0.0-2.9	0.5-1.0	.05
	19-37	1-2-5	1.40-1.60	14.00-42.00	0.05-0.07	0.0-2.9	0.5-1.0	.15
	37-54	1-1-5	1.40-1.60	14.00-42.00	0.05-0.07	0.0-2.9	0.0-1.0	.15
	54-67	1-1-5	1.40-1.60	14.00-42.00	0.05-0.07	0.0-2.9	0.0-1.0	.05

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion Kw
	In	*Pct*	*g/cc*	*um/sec*	*In/in*	*Pct*	*Pct*	
12B:								
Yaquina---------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-7	1-3-5	1.40-1.50	14.00-42.00	0.09-0.11	0.0-2.9	2.0-5.0	.20
	7-15	1-1-2	1.40-1.55	14.00-42.00	0.05-0.07	0.0-2.9	0.5-2.0	.02
	15-31	1-1-2	1.40-1.55	14.00-42.00	0.05-0.07	0.0-2.9	0.5-1.0	.02
	31-61	1-1-2	1.40-1.60	14.00-42.00	0.05-0.07	0.0-2.9	0.0-1.0	.02
Heceta----------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-6	3-3-10	1.40-1.55	42.00-141.00	0.05-0.07	0.0-2.9	2.0-5.0	.02
	6-61	3-3-15	1.40-1.60	42.00-141.00	0.05-0.08	0.0-2.9	0.0-1.0	.02
13B:								
Waldport, thin surface--------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-3	1-3-5	1.40-1.55	42.00-141.00	0.03-0.05	0.0-2.9	3.0-8.0	.02
Heceta----------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-6	3-3-10	1.40-1.55	42.00-141.00	0.05-0.07	0.0-2.9	2.0-5.0	.02
	6-61	3-3-15	1.40-1.60	42.00-141.00	0.05-0.08	0.0-2.9	0.0-1.0	.02
14A:								
Heceta----------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-6	3-3-10	1.40-1.55	42.00-141.00	0.05-0.07	0.0-2.9	2.0-5.0	.02
	6-61	3-3-15	1.40-1.60	42.00-141.00	0.05-0.08	0.0-2.9	0.0-1.0	.02
15B:								
Netarts---------------	0-2	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	2-5	1-5-8	1.30-1.40	14.00-42.00	0.05-0.07	0.0-2.9	3.0-5.0	.20
	5-9	1-3-5	1.40-1.55	14.00-42.00	0.05-0.07	0.0-2.9	1.0-3.0	.20
	9-15	1-2-5	1.40-1.55	14.00-42.00	0.05-0.07	0.0-2.9	0.5-2.0	.24
	15-19	1-2-5	1.40-1.60	14.00-42.00	0.05-0.07	0.0-2.9	0.5-1.0	.05
	19-37	1-2-5	1.40-1.60	14.00-42.00	0.05-0.07	0.0-2.9	0.5-1.0	.15
	37-54	1-1-5	1.40-1.60	14.00-42.00	0.05-0.07	0.0-2.9	0.0-1.0	.15
	54-67	1-1-5	1.40-1.60	14.00-42.00	0.05-0.07	0.0-2.9	0.0-1.0	.05
Yaquina---------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-7	1-3-5	1.40-1.50	14.00-42.00	0.09-0.11	0.0-2.9	2.0-5.0	.20
	7-15	1-1-2	1.40-1.55	14.00-42.00	0.05-0.07	0.0-2.9	0.5-2.0	.02
	15-31	1-1-2	1.40-1.55	14.00-42.00	0.05-0.07	0.0-2.9	0.5-1.0	.02
	31-61	1-1-2	1.40-1.60	14.00-42.00	0.05-0.07	0.0-2.9	0.0-1.0	.02

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion Kw
	In	*Pct*	*g/cc*	*um/sec*	*In/in*	*Pct*	*Pct*	
16F:								
Caterl	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-6	12-15-20	0.70-0.85	4.00-14.00	0.20-0.25	0.0-2.9	10-12	.15
	6-12	12-18-20	0.70-0.85	4.00-14.00	0.15-0.20	0.0-2.9	7.0-10	.10
	12-18	12-20-20	0.70-0.85	4.00-14.00	0.15-0.20	0.0-2.9	5.0-10	.10
	18-35	18-22-30	0.75-0.85	4.00-14.00	0.10-0.16	0.0-2.9	1.0-3.0	.10
	35-53	12-24-27	0.75-0.85	4.00-14.00	0.05-0.10	0.0-2.9	0.0-1.0	.05
	53-57	---	---	---	---	---	---	---
Laderly	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-13	12-18-20	0.75-0.85	14.00-42.00	0.15-0.20	0.0-2.9	7.0-12	.10
	13-22	15-20-27	0.75-0.85	14.00-42.00	0.05-0.10	0.0-2.9	5.0-10	.10
	22-30	15-20-27	0.75-0.85	14.00-42.00	0.05-0.10	0.0-2.9	0.0-3.0	.05
	30-34	---	---	---	---	---	---	---
Murtip	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-7	12-15-20	0.70-0.85	4.00-14.00	0.35-0.45	0.0-2.9	10-12	.32
	7-14	12-18-20	0.70-0.85	4.00-14.00	0.35-0.45	0.0-2.9	7.0-10	.28
	14-24	18-22-30	0.75-0.85	4.00-14.00	0.20-0.25	0.0-2.9	3.0-10	.37
	24-43	18-24-30	0.75-0.85	4.00-14.00	0.20-0.25	0.0-2.9	1.0-3.0	.43
	43-50	18-22-30	0.75-0.85	4.00-14.00	0.12-0.20	0.0-2.9	0.0-1.0	.37
	50-60	---	---	---	---	---	---	---
17B:								
Chitwood	0-7	20-22-27	0.90-1.00	4.00-14.00	0.25-0.35	0.0-2.9	9.0-10	.32
	7-11	20-26-27	0.90-1.00	4.00-14.00	0.25-0.35	0.0-2.9	5.0-7.0	.37
	11-19	30-34-37	1.10-1.20	1.40-4.00	0.19-0.21	3.0-5.9	3.0-5.0	.32
	19-29	35-42-45	1.20-1.35	0.42-1.40	0.15-0.21	3.0-5.9	2.0-3.0	.32
	29-60	35-37-45	1.20-1.35	0.42-1.40	0.15-0.21	3.0-5.9	0.5-2.0	.37
Hebo	0-4	27-28-35	1.10-1.20	1.40-4.00	0.19-0.21	3.0-5.9	7.0-12	.37
	4-10	35-42-45	1.20-1.35	0.42-1.40	0.15-0.21	3.0-5.9	1.0-5.0	.32
	10-18	40-45-60	1.25-1.35	0.01-0.42	0.14-0.17	3.0-5.9	0.5-2.0	.28
	18-26	40-45-60	1.25-1.35	0.01-0.42	0.14-0.17	3.0-5.9	0.5-1.0	.28
	26-35	40-42-60	1.25-1.35	0.01-0.42	0.14-0.17	3.0-5.9	0.5-1.0	.37
	35-60	35-37-45	1.20-1.35	0.01-1.40	0.13-0.21	3.0-5.9	0.0-1.0	.28
18B:								
Chitwood	0-7	20-22-27	0.90-1.00	4.00-14.00	0.25-0.35	0.0-2.9	9.0-10	.32
	7-11	20-26-27	0.90-1.00	4.00-14.00	0.25-0.35	0.0-2.9	5.0-7.0	.37
	11-19	30-34-37	1.10-1.20	1.40-4.00	0.19-0.21	3.0-5.9	3.0-5.0	.32
	19-29	35-42-45	1.20-1.35	0.42-1.40	0.15-0.21	3.0-5.9	2.0-3.0	.32
	29-60	35-37-45	1.20-1.35	0.42-1.40	0.15-0.21	3.0-5.9	0.5-2.0	.37

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion Kw
	In	*Pct*	*g/cc*	*um/sec*	*In/in*	*Pct*	*Pct*	
18C:								
Chitwood-------------	0-7	20-22-27	0.90-1.00	4.00-14.00	0.25-0.35	0.0-2.9	9.0-10	.32
	7-11	20-26-27	0.90-1.00	4.00-14.00	0.25-0.35	0.0-2.9	5.0-7.0	.37
	11-19	30-34-37	1.10-1.20	1.40-4.00	0.19-0.21	3.0-5.9	3.0-5.0	.32
	19-29	35-42-45	1.20-1.35	0.42-1.40	0.15-0.21	3.0-5.9	2.0-3.0	.32
	29-60	35-37-45	1.20-1.35	0.42-1.40	0.15-0.21	3.0-5.9	0.5-2.0	.37
19E:								
Klootchie------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-9	18-20-20	0.75-0.85	4.00-14.00	0.35-0.45	0.0-2.9	10-15	.32
	9-19	18-22-25	0.75-0.85	4.00-14.00	0.35-0.45	0.0-2.9	7.0-10	.37
	19-44	20-28-30	0.75-0.90	4.00-14.00	0.25-0.30	0.0-2.9	2.0-5.0	.32
	44-68	20-30-30	0.75-0.90	4.00-14.00	0.25-0.30	0.0-2.9	0.0-2.0	.43
20D:								
Klootchie------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-9	18-20-20	0.75-0.85	4.00-14.00	0.35-0.45	0.0-2.9	10-15	.32
	9-19	18-22-25	0.75-0.85	4.00-14.00	0.35-0.45	0.0-2.9	7.0-10	.37
	19-44	20-28-30	0.75-0.90	4.00-14.00	0.25-0.30	0.0-2.9	2.0-5.0	.32
	44-68	20-30-30	0.75-0.90	4.00-14.00	0.25-0.30	0.0-2.9	0.0-2.0	.43
Necanicum------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-10	15-20-25	0.75-0.85	4.00-14.00	0.15-0.20	0.0-2.9	10-15	.10
	10-18	15-22-25	0.75-0.85	4.00-14.00	0.15-0.20	0.0-2.9	7.0-10	.10
	18-27	18-25-27	0.75-0.90	4.00-14.00	0.05-0.15	0.0-2.9	2.0-7.0	.10
	27-49	18-25-27	0.75-0.90	4.00-14.00	0.05-0.15	0.0-2.9	2.0-5.0	.05
	49-71	18-25-27	0.75-0.90	4.00-14.00	0.05-0.15	0.0-2.9	0.0-2.0	.05
20E:								
Klootchie------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-9	18-20-20	0.75-0.85	4.00-14.00	0.35-0.45	0.0-2.9	10-15	.32
	9-19	18-22-25	0.75-0.85	4.00-14.00	0.35-0.45	0.0-2.9	7.0-10	.37
	19-44	20-28-30	0.75-0.90	4.00-14.00	0.25-0.30	0.0-2.9	2.0-5.0	.32
	44-68	20-30-30	0.75-0.90	4.00-14.00	0.25-0.30	0.0-2.9	0.0-2.0	.43
Necanicum------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-10	15-20-25	0.75-0.85	4.00-14.00	0.15-0.20	0.0-2.9	10-15	.10
	10-18	15-22-25	0.75-0.85	4.00-14.00	0.15-0.20	0.0-2.9	7.0-10	.10
	18-27	18-25-27	0.75-0.90	4.00-14.00	0.05-0.15	0.0-2.9	2.0-7.0	.10
	27-49	18-25-27	0.75-0.90	4.00-14.00	0.05-0.15	0.0-2.9	2.0-5.0	.05
	49-71	18-25-27	0.75-0.90	4.00-14.00	0.05-0.15	0.0-2.9	0.0-2.0	.05

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion Kw
	In	*Pct*	*g/cc*	*um/sec*	*In/in*	*Pct*	*Pct*	
21F:								
Necanicum------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-10	15-20-25	0.75-0.85	4.00-14.00	0.15-0.20	0.0-2.9	10-15	.10
	10-18	15-22-25	0.75-0.85	4.00-14.00	0.15-0.20	0.0-2.9	7.0-10	.10
	18-27	18-25-27	0.75-0.90	4.00-14.00	0.05-0.15	0.0-2.9	2.0-7.0	.10
	27-49	18-25-27	0.75-0.90	4.00-14.00	0.05-0.15	0.0-2.9	2.0-5.0	.05
	49-71	18-25-27	0.75-0.90	4.00-14.00	0.05-0.15	0.0-2.9	0.0-2.0	.05
Ascar----------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-9	10-15-20	0.75-0.85	14.00-42.00	0.10-0.15	0.0-2.9	10-15	.05
	9-25	15-20-20	0.75-0.85	14.00-42.00	0.10-0.15	0.0-2.9	7.0-10	.05
	25-39	18-20-27	0.75-0.85	14.00-42.00	0.05-0.15	0.0-2.9	2.0-7.0	.05
	39-43	---	---	---	---	---	---	---
Klootchie------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-9	18-20-20	0.75-0.85	4.00-14.00	0.35-0.45	0.0-2.9	10-15	.32
	9-19	18-22-25	0.75-0.85	4.00-14.00	0.35-0.45	0.0-2.9	7.0-10	.37
	19-44	20-28-30	0.75-0.90	4.00-14.00	0.25-0.30	0.0-2.9	2.0-5.0	.32
	44-68	20-30-30	0.75-0.90	4.00-14.00	0.25-0.30	0.0-2.9	0.0-2.0	.43
22F:								
Ascar----------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-9	10-15-20	0.75-0.85	14.00-42.00	0.10-0.15	0.0-2.9	10-15	.05
	9-25	15-20-20	0.75-0.85	14.00-42.00	0.10-0.15	0.0-2.9	7.0-10	.05
	25-39	18-20-27	0.75-0.85	14.00-42.00	0.05-0.15	0.0-2.9	2.0-7.0	.05
	39-43	---	---	---	---	---	---	---
Necanicum------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-10	15-20-25	0.75-0.85	4.00-14.00	0.15-0.20	0.0-2.9	10-15	.10
	10-18	15-22-25	0.75-0.85	4.00-14.00	0.15-0.20	0.0-2.9	7.0-10	.10
	18-27	18-25-27	0.75-0.90	4.00-14.00	0.05-0.15	0.0-2.9	2.0-7.0	.10
	27-49	18-25-27	0.75-0.90	4.00-14.00	0.05-0.15	0.0-2.9	2.0-5.0	.05
	49-71	18-25-27	0.75-0.90	4.00-14.00	0.05-0.15	0.0-2.9	0.0-2.0	.05
Rock outcrop---------	0-60	---	---	---	---	---	---	---
23F:								
Rock outcrop---------	0-60	---	---	---	---	---	---	---
Ascar----------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-9	10-15-20	0.75-0.85	14.00-42.00	0.10-0.15	0.0-2.9	10-15	.05
	9-25	15-20-20	0.75-0.85	14.00-42.00	0.10-0.15	0.0-2.9	7.0-10	.05
	25-39	18-20-27	0.75-0.85	14.00-42.00	0.05-0.15	0.0-2.9	2.0-7.0	.05
	39-43	---	---	---	---	---	---	---

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion Kw
	In	*Pct*	*g/cc*	*um/sec*	*In/in*	*Pct*	*Pct*	
24C:								
Lebam----------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-10	18-25-25	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	10-15	.37
	10-18	20-26-27	0.75-0.90	4.00-14.00	0.25-0.30	0.0-2.9	7.0-10	.37
	18-44	27-37-40	0.90-1.20	1.40-4.00	0.15-0.21	3.0-5.9	2.0-5.0	.32
	44-61	35-39-45	1.10-1.25	1.40-4.00	0.11-0.15	3.0-5.9	0.0-2.0	.37
	61-76	35-35-45	1.10-1.25	1.40-4.00	0.11-0.15	3.0-5.9	0.0-2.0	.37
24D:								
Lebam----------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-10	18-25-25	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	10-15	.37
	10-18	20-26-27	0.75-0.90	4.00-14.00	0.25-0.30	0.0-2.9	7.0-10	.37
	18-44	27-37-40	0.90-1.20	1.40-4.00	0.15-0.21	3.0-5.9	2.0-5.0	.32
	44-61	35-39-45	1.10-1.25	1.40-4.00	0.11-0.15	3.0-5.9	0.0-2.0	.37
	61-76	35-35-45	1.10-1.25	1.40-4.00	0.11-0.15	3.0-5.9	0.0-2.0	.37
25E:								
Lebam----------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-10	18-25-25	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	10-15	.37
	10-18	20-26-27	0.75-0.90	4.00-14.00	0.25-0.30	0.0-2.9	7.0-10	.37
	18-44	27-37-40	0.90-1.20	1.40-4.00	0.15-0.21	3.0-5.9	2.0-5.0	.32
	44-61	35-39-45	1.10-1.25	1.40-4.00	0.11-0.15	3.0-5.9	0.0-2.0	.37
	61-76	35-35-45	1.10-1.25	1.40-4.00	0.11-0.15	3.0-5.9	0.0-2.0	.37
Necanicum------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-10	15-20-25	0.75-0.85	4.00-14.00	0.15-0.20	0.0-2.9	10-15	.10
	10-18	15-22-25	0.75-0.85	4.00-14.00	0.15-0.20	0.0-2.9	7.0-10	.10
	18-27	18-25-27	0.75-0.90	4.00-14.00	0.05-0.15	0.0-2.9	2.0-7.0	.10
	27-49	18-25-27	0.75-0.90	4.00-14.00	0.05-0.15	0.0-2.9	2.0-5.0	.05
	49-71	18-25-27	0.75-0.90	4.00-14.00	0.05-0.15	0.0-2.9	0.0-2.0	.05
26F:								
Lebam----------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-10	18-25-25	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	10-15	.37
	10-18	20-26-27	0.75-0.90	4.00-14.00	0.25-0.30	0.0-2.9	7.0-10	.37
	18-44	27-37-40	0.90-1.20	1.40-4.00	0.15-0.21	3.0-5.9	2.0-5.0	.32
	44-61	35-39-45	1.10-1.25	1.40-4.00	0.11-0.15	3.0-5.9	0.0-2.0	.37
	61-76	35-35-45	1.10-1.25	1.40-4.00	0.11-0.15	3.0-5.9	0.0-2.0	.37
Necanicum------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-10	15-20-25	0.75-0.85	4.00-14.00	0.15-0.20	0.0-2.9	10-15	.10
	10-18	15-22-25	0.75-0.85	4.00-14.00	0.15-0.20	0.0-2.9	7.0-10	.10
	18-27	18-25-27	0.75-0.90	4.00-14.00	0.05-0.15	0.0-2.9	2.0-7.0	.10
	27-49	18-25-27	0.75-0.90	4.00-14.00	0.05-0.15	0.0-2.9	2.0-5.0	.05
	49-71	18-25-27	0.75-0.90	4.00-14.00	0.05-0.15	0.0-2.9	0.0-2.0	.05

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion Kw
	In	*Pct*	*g/cc*	*um/sec*	*In/in*	*Pct*	*Pct*	
28D:								
Templeton------------	0-2	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	2-15	18-23-27	0.85-0.95	4.00-14.00	0.25-0.35	0.0-2.9	10-15	.37
	15-28	25-31-35	0.90-1.00	4.00-14.00	0.20-0.25	0.0-2.9	3.0-9.0	.32
	28-43	25-34-35	0.95-1.10	4.00-14.00	0.20-0.25	0.0-2.9	2.0-5.0	.28
	43-54	25-34-35	0.95-1.10	4.00-14.00	0.20-0.25	0.0-2.9	1.0-5.0	.37
	54-59	25-34-35	0.95-1.10	4.00-14.00	0.20-0.25	0.0-2.9	0.5-5.0	.37
	59-69	---	---	---	---	---	---	---
Necanicum------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-10	15-20-25	0.75-0.85	4.00-14.00	0.15-0.20	0.0-2.9	10-15	.10
	10-18	15-22-25	0.75-0.85	4.00-14.00	0.15-0.20	0.0-2.9	7.0-10	.10
	18-27	18-25-27	0.75-0.90	4.00-14.00	0.05-0.15	0.0-2.9	2.0-7.0	.10
	27-49	18-25-27	0.75-0.90	4.00-14.00	0.05-0.15	0.0-2.9	2.0-5.0	.05
	49-71	18-25-27	0.75-0.90	4.00-14.00	0.05-0.15	0.0-2.9	0.0-2.0	.05
29D:								
Templeton------------	0-2	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	2-15	18-23-27	0.85-0.95	4.00-14.00	0.25-0.35	0.0-2.9	10-15	.37
	15-28	25-31-35	0.90-1.00	4.00-14.00	0.20-0.25	0.0-2.9	3.0-9.0	.32
	28-43	25-34-35	0.95-1.10	4.00-14.00	0.20-0.25	0.0-2.9	2.0-5.0	.28
	43-54	25-34-35	0.95-1.10	4.00-14.00	0.20-0.25	0.0-2.9	1.0-5.0	.37
	54-59	25-34-35	0.95-1.10	4.00-14.00	0.20-0.25	0.0-2.9	0.5-5.0	.37
	59-69	---	---	---	---	---	---	---
Klootchie------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-9	18-20-20	0.75-0.85	4.00-14.00	0.35-0.45	0.0-2.9	10-15	.32
	9-19	18-22-25	0.75-0.85	4.00-14.00	0.35-0.45	0.0-2.9	7.0-10	.37
	19-44	20-28-30	0.75-0.90	4.00-14.00	0.25-0.30	0.0-2.9	2.0-5.0	.32
	44-68	20-30-30	0.75-0.90	4.00-14.00	0.25-0.30	0.0-2.9	0.0-2.0	.43
29E:								
Templeton------------	0-2	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	2-15	18-23-27	0.85-0.95	4.00-14.00	0.25-0.35	0.0-2.9	10-15	.37
	15-28	25-31-35	0.90-1.00	4.00-14.00	0.20-0.25	0.0-2.9	3.0-9.0	.32
	28-43	25-34-35	0.95-1.10	4.00-14.00	0.20-0.25	0.0-2.9	2.0-5.0	.28
	43-54	25-34-35	0.95-1.10	4.00-14.00	0.20-0.25	0.0-2.9	1.0-5.0	.37
	54-59	25-34-35	0.95-1.10	4.00-14.00	0.20-0.25	0.0-2.9	0.5-5.0	.37
	59-69	---	---	---	---	---	---	---
Klootchie------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-9	18-20-20	0.75-0.85	4.00-14.00	0.35-0.45	0.0-2.9	10-15	.32
	9-19	18-22-25	0.75-0.85	4.00-14.00	0.35-0.45	0.0-2.9	7.0-10	.37
	19-44	20-28-30	0.75-0.90	4.00-14.00	0.25-0.30	0.0-2.9	2.0-5.0	.32
	44-68	20-30-30	0.75-0.90	4.00-14.00	0.25-0.30	0.0-2.9	0.0-2.0	.43

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion Kw
	In	Pct	g/cc	um/sec	In/in	Pct	Pct	
30D:								
Templeton------------	0-2	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	2-15	18-23-27	0.85-0.95	4.00-14.00	0.25-0.35	0.0-2.9	10-15	.37
	15-28	25-31-35	0.90-1.00	4.00-14.00	0.20-0.25	0.0-2.9	3.0-9.0	.32
	28-43	25-34-35	0.95-1.10	4.00-14.00	0.20-0.25	0.0-2.9	2.0-5.0	.28
	43-54	25-34-35	0.95-1.10	4.00-14.00	0.20-0.25	0.0-2.9	1.0-5.0	.37
	54-59	25-34-35	0.95-1.10	4.00-14.00	0.20-0.25	0.0-2.9	0.5-5.0	.37
	59-69	---	---	---	---	---	---	---
30E:								
Templeton------------	0-2	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	2-15	18-23-27	0.85-0.95	4.00-14.00	0.25-0.35	0.0-2.9	10-15	.37
	15-28	25-31-35	0.90-1.00	4.00-14.00	0.20-0.25	0.0-2.9	3.0-9.0	.32
	28-43	25-34-35	0.95-1.10	4.00-14.00	0.20-0.25	0.0-2.9	2.0-5.0	.28
	43-54	25-34-35	0.95-1.10	4.00-14.00	0.20-0.25	0.0-2.9	1.0-5.0	.37
	54-59	25-34-35	0.95-1.10	4.00-14.00	0.20-0.25	0.0-2.9	0.5-5.0	.37
	59-69	---	---	---	---	---	---	---
Ecola----------------	0-3	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	3-12	20-20-25	0.85-0.95	4.00-14.00	0.25-0.35	0.0-2.9	10-15	.28
	12-19	25-25-30	0.90-1.00	4.00-14.00	0.20-0.25	0.0-2.9	3.0-7.0	.37
	19-36	25-30-35	0.95-1.10	4.00-14.00	0.20-0.25	0.0-2.9	0.5-3.0	.43
	36-46	---	---	---	---	---	---	---
30F:								
Templeton------------	0-2	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	2-15	18-23-27	0.85-0.95	4.00-14.00	0.25-0.35	0.0-2.9	10-15	.37
	15-28	25-31-35	0.90-1.00	4.00-14.00	0.20-0.25	0.0-2.9	3.0-9.0	.32
	28-43	25-34-35	0.95-1.10	4.00-14.00	0.20-0.25	0.0-2.9	2.0-5.0	.28
	43-54	25-34-35	0.95-1.10	4.00-14.00	0.20-0.25	0.0-2.9	1.0-5.0	.37
	54-59	25-34-35	0.95-1.10	4.00-14.00	0.20-0.25	0.0-2.9	0.5-5.0	.37
	59-69	---	---	---	---	---	---	---
Ecola----------------	0-3	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	3-12	20-20-25	0.85-0.95	4.00-14.00	0.25-0.35	0.0-2.9	10-15	.28
	12-19	25-25-30	0.90-1.00	4.00-14.00	0.20-0.25	0.0-2.9	3.0-7.0	.37
	19-36	25-30-35	0.95-1.10	4.00-14.00	0.20-0.25	0.0-2.9	0.5-3.0	.43
	36-46	---	---	---	---	---	---	---

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion Kw
	In	Pct	g/cc	um/sec	In/in	Pct	Pct	
31D:								
Tolovana-------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-6	15-15-20	0.75-0.90	4.00-14.00	0.35-0.45	3.0-5.9	10-15	.32
	6-9	15-17-20	0.75-0.90	4.00-14.00	0.35-0.45	3.0-5.9	10-15	.32
	9-20	15-19-20	0.75-0.90	4.00-14.00	0.35-0.45	3.0-5.9	5.0-10	.37
	20-27	27-28-35	1.20-1.35	1.40-4.00	0.17-0.21	3.0-5.9	1.0-3.0	.43
	27-38	27-28-35	1.20-1.35	1.40-4.00	0.17-0.21	3.0-5.9	1.0-3.0	.43
	38-48	27-29-35	1.20-1.35	1.40-4.00	0.17-0.21	3.0-5.9	0.5-1.0	.32
	48-60	20-28-35	1.10-1.35	1.40-14.00	0.12-0.21	3.0-5.9	0.5-1.0	.32
Templeton------------	0-2	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	2-15	18-23-27	0.85-0.95	4.00-14.00	0.25-0.35	0.0-2.9	10-15	.37
	15-28	25-31-35	0.90-1.00	4.00-14.00	0.20-0.25	0.0-2.9	3.0-9.0	.32
	28-43	25-34-35	0.95-1.10	4.00-14.00	0.20-0.25	0.0-2.9	2.0-5.0	.28
	43-54	25-34-35	0.95-1.10	4.00-14.00	0.20-0.25	0.0-2.9	1.0-5.0	.37
	54-59	25-34-35	0.95-1.10	4.00-14.00	0.20-0.25	0.0-2.9	0.5-5.0	.37
	59-69	---	---	---	---	---	---	---
31E:								
Tolovana-------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-6	15-15-20	0.75-0.90	4.00-14.00	0.35-0.45	3.0-5.9	10-15	.32
	6-9	15-17-20	0.75-0.90	4.00-14.00	0.35-0.45	3.0-5.9	10-15	.32
	9-20	15-19-20	0.75-0.90	4.00-14.00	0.35-0.45	3.0-5.9	5.0-10	.37
	20-27	27-28-35	1.20-1.35	1.40-4.00	0.17-0.21	3.0-5.9	1.0-3.0	.43
	27-38	27-28-35	1.20-1.35	1.40-4.00	0.17-0.21	3.0-5.9	1.0-3.0	.43
	38-48	27-29-35	1.20-1.35	1.40-4.00	0.17-0.21	3.0-5.9	0.5-1.0	.32
	48-60	20-28-35	1.10-1.35	1.40-14.00	0.12-0.21	3.0-5.9	0.5-1.0	.32
Templeton------------	0-2	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	2-15	18-23-27	0.85-0.95	4.00-14.00	0.25-0.35	0.0-2.9	10-15	.37
	15-28	25-31-35	0.90-1.00	4.00-14.00	0.20-0.25	0.0-2.9	3.0-9.0	.32
	28-43	25-34-35	0.95-1.10	4.00-14.00	0.20-0.25	0.0-2.9	2.0-5.0	.28
	43-54	25-34-35	0.95-1.10	4.00-14.00	0.20-0.25	0.0-2.9	1.0-5.0	.37
	54-59	25-34-35	0.95-1.10	4.00-14.00	0.20-0.25	0.0-2.9	0.5-5.0	.37
	59-69	---	---	---	---	---	---	---
32D:								
Munsoncreek----------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-10	18-22-25	0.75-0.95	4.00-14.00	0.25-0.35	0.0-2.9	10-15	.37
	10-18	25-28-35	0.80-1.20	1.40-9.00	0.20-0.25	0.0-2.9	3.0-10	.37
	18-28	35-35-45	1.10-1.30	1.40-4.00	0.12-0.20	3.0-5.9	2.0-5.0	.28
	28-41	35-39-45	1.10-1.30	1.40-4.00	0.12-0.20	3.0-5.9	1.0-2.0	.28
	41-58	35-38-45	1.10-1.30	1.40-4.00	0.12-0.20	3.0-5.9	0.0-1.0	.37
	58-68	---	---	---	---	---	---	---

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion
								Kw
	In	Pct	g/cc	um/sec	In/in	Pct	Pct	
32D:								
Flowerpot------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-8	27-30-30	0.85-1.00	1.40-4.00	0.35-0.45	3.0-5.9	10-15	.32
	8-14	30-32-40	1.20-1.35	1.40-4.00	0.19-0.21	3.0-8.9	3.0-9.0	.32
	14-22	35-36-40	1.20-1.35	1.40-4.00	0.19-0.21	3.0-8.9	3.0-9.0	.28
	22-30	35-39-40	1.20-1.35	1.40-4.00	0.19-0.21	3.0-8.9	2.0-3.0	.28
	30-52	35-39-45	1.20-1.35	0.42-4.00	0.15-0.21	3.0-8.9	1.0-2.0	.28
	52-60	27-36-45	1.20-1.35	0.42-4.00	0.15-0.21	3.0-8.9	0.5-2.0	.32
32E:								
Munsoncreek----------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-10	18-22-25	0.75-0.95	4.00-14.00	0.25-0.35	0.0-2.9	10-15	.37
	10-18	25-28-35	0.80-1.20	1.40-9.00	0.20-0.25	0.0-2.9	3.0-10	.37
	18-28	35-35-45	1.10-1.30	1.40-4.00	0.12-0.20	3.0-5.9	2.0-5.0	.28
	28-41	35-39-45	1.10-1.30	1.40-4.00	0.12-0.20	3.0-5.9	1.0-2.0	.28
	41-58	35-38-45	1.10-1.30	1.40-4.00	0.12-0.20	3.0-5.9	0.0-1.0	.37
	58-68	---	---	---	---	---	---	---
Templeton------------	0-2	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	2-15	18-23-27	0.85-0.95	4.00-14.00	0.25-0.35	0.0-2.9	10-15	.37
	15-28	25-31-35	0.90-1.00	4.00-14.00	0.20-0.25	0.0-2.9	3.0-9.0	.32
	28-43	25-34-35	0.95-1.10	4.00-14.00	0.20-0.25	0.0-2.9	2.0-5.0	.28
	43-54	25-34-35	0.95-1.10	4.00-14.00	0.20-0.25	0.0-2.9	1.0-5.0	.37
	54-59	25-34-35	0.95-1.10	4.00-14.00	0.20-0.25	0.0-2.9	0.5-5.0	.37
	59-69	---	---	---	---	---	---	---
33D:								
Tolovana-------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-6	15-15-20	0.75-0.90	4.00-14.00	0.35-0.45	3.0-5.9	10-15	.32
	6-9	15-17-20	0.75-0.90	4.00-14.00	0.35-0.45	3.0-5.9	10-15	.32
	9-20	15-19-20	0.75-0.90	4.00-14.00	0.35-0.45	3.0-5.9	5.0-10	.37
	20-27	27-28-35	1.20-1.35	1.40-4.00	0.17-0.21	3.0-5.9	1.0-3.0	.43
	27-38	27-28-35	1.20-1.35	1.40-4.00	0.17-0.21	3.0-5.9	1.0-3.0	.43
	38-48	27-29-35	1.20-1.35	1.40-4.00	0.17-0.21	3.0-5.9	0.5-1.0	.32
	48-60	20-28-35	1.10-1.35	1.40-14.00	0.12-0.21	3.0-5.9	0.5-1.0	.32
37D:								
Templeton------------	0-2	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	2-15	18-23-27	0.85-0.95	4.00-14.00	0.25-0.35	0.0-2.9	10-15	.37
	15-28	25-31-35	0.90-1.00	4.00-14.00	0.20-0.25	0.0-2.9	3.0-9.0	.32
	28-43	25-34-35	0.95-1.10	4.00-14.00	0.20-0.25	0.0-2.9	2.0-5.0	.28
	43-54	25-34-35	0.95-1.10	4.00-14.00	0.20-0.25	0.0-2.9	1.0-5.0	.37
	54-59	25-34-35	0.95-1.10	4.00-14.00	0.20-0.25	0.0-2.9	0.5-5.0	.37
	59-69	---	---	---	---	---	---	---

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion Kw
	In	*Pct*	*g/cc*	*um/sec*	*In/in*	*Pct*	*Pct*	
37D:								
Skipanon	0-2	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	2-7	18-20-25	0.85-0.95	4.00-14.00	0.15-0.20	0.0-2.9	10-15	.15
	7-15	18-25-25	0.90-1.00	4.00-14.00	0.15-0.20	0.0-2.9	3.0-9.0	.20
	15-29	20-28-35	0.95-1.10	4.00-14.00	0.12-0.18	3.0-5.9	2.0-3.0	.17
	29-44	20-30-35	0.95-1.10	4.00-14.00	0.12-0.18	3.0-5.9	1.0-3.0	.15
	44-62	25-28-35	0.95-1.10	4.00-14.00	0.17-0.21	3.0-5.9	0.5-1.0	.32
37E:								
Templeton	0-2	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	2-15	18-23-27	0.85-0.95	4.00-14.00	0.25-0.35	0.0-2.9	10-15	.37
	15-28	25-31-35	0.90-1.00	4.00-14.00	0.20-0.25	0.0-2.9	3.0-9.0	.32
	28-43	25-34-35	0.95-1.10	4.00-14.00	0.20-0.25	0.0-2.9	2.0-5.0	.28
	43-54	25-34-35	0.95-1.10	4.00-14.00	0.20-0.25	0.0-2.9	1.0-5.0	.37
	54-59	25-34-35	0.95-1.10	4.00-14.00	0.20-0.25	0.0-2.9	0.5-5.0	.37
	59-69	---	---	---	---	---	---	---
Skipanon	0-2	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	2-7	18-20-25	0.85-0.95	4.00-14.00	0.15-0.20	0.0-2.9	10-15	.15
	7-15	18-25-25	0.90-1.00	4.00-14.00	0.15-0.20	0.0-2.9	3.0-9.0	.20
	15-29	20-28-35	0.95-1.10	4.00-14.00	0.12-0.18	3.0-5.9	2.0-3.0	.17
	29-44	20-30-35	0.95-1.10	4.00-14.00	0.12-0.18	3.0-5.9	1.0-3.0	.15
	44-62	25-28-35	0.95-1.10	4.00-14.00	0.17-0.21	3.0-5.9	0.5-1.0	.32
38E:								
Templeton	0-2	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	2-15	18-23-27	0.85-0.95	4.00-14.00	0.25-0.35	0.0-2.9	10-15	.37
	15-28	25-31-35	0.90-1.00	4.00-14.00	0.20-0.25	0.0-2.9	3.0-9.0	.32
	28-43	25-34-35	0.95-1.10	4.00-14.00	0.20-0.25	0.0-2.9	2.0-5.0	.28
	43-54	25-34-35	0.95-1.10	4.00-14.00	0.20-0.25	0.0-2.9	1.0-5.0	.37
	54-59	25-34-35	0.95-1.10	4.00-14.00	0.20-0.25	0.0-2.9	0.5-5.0	.37
	59-69	---	---	---	---	---	---	---
Necanicum	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-10	15-20-25	0.75-0.85	4.00-14.00	0.15-0.20	0.0-2.9	10-15	.10
	10-18	15-22-25	0.75-0.85	4.00-14.00	0.15-0.20	0.0-2.9	7.0-10	.10
	18-27	18-25-27	0.75-0.90	4.00-14.00	0.05-0.15	0.0-2.9	2.0-7.0	.10
	27-49	18-25-27	0.75-0.90	4.00-14.00	0.05-0.15	0.0-2.9	2.0-5.0	.05
	49-71	18-25-27	0.75-0.90	4.00-14.00	0.05-0.15	0.0-2.9	0.0-2.0	.05

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion Kw
	In	Pct	g/cc	um/sec	In/in	Pct	Pct	
43F:								
Klistan--------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-7	12-15-18	0.70-0.85	4.00-14.00	0.15-0.20	0.0-2.9	5.0-10	.10
	7-14	18-18-25	0.75-0.85	4.00-14.00	0.15-0.20	0.0-2.9	3.0-10	.10
	14-26	18-18-25	0.75-0.85	4.00-14.00	0.05-0.08	0.0-2.9	3.0-5.0	.15
	26-36	18-18-25	0.75-0.90	4.00-14.00	0.05-0.08	0.0-2.9	1.0-3.0	.10
	36-44	18-22-25	0.75-0.90	4.00-14.00	0.05-0.08	0.0-2.9	0.0-1.0	.10
	44-48	---	---	---	---	---	---	---
Harslow--------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-7	15-15-25	0.75-0.85	4.00-14.00	0.10-0.16	0.0-2.9	5.0-10	.05
	7-13	15-18-25	0.75-0.85	4.00-14.00	0.10-0.16	0.0-2.9	3.0-10	.05
	13-22	20-20-27	0.80-0.85	4.00-14.00	0.05-0.10	0.0-2.9	3.0-5.0	.05
	22-37	15-18-25	0.80-0.85	4.00-14.00	0.05-0.08	0.0-2.9	0.5-3.0	.05
	37-41	---	---	---	---	---	---	---
Hemcross-------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-9	15-18-25	0.75-0.85	4.00-14.00	0.35-0.45	0.0-2.9	5.0-10	.28
	9-20	15-18-25	0.75-0.85	4.00-14.00	0.35-0.45	0.0-2.9	3.0-7.0	.28
	20-49	18-22-30	0.80-0.90	4.00-14.00	0.25-0.35	0.0-2.9	1.0-5.0	.37
	49-62	18-25-30	0.80-0.90	4.00-14.00	0.25-0.35	0.0-2.9	0.0-2.0	.43
44E:								
Klistan--------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-7	12-15-18	0.70-0.85	4.00-14.00	0.15-0.20	0.0-2.9	5.0-10	.10
	7-14	18-18-25	0.75-0.85	4.00-14.00	0.15-0.20	0.0-2.9	3.0-10	.10
	14-26	18-18-25	0.75-0.85	4.00-14.00	0.05-0.08	0.0-2.9	3.0-5.0	.15
	26-36	18-18-25	0.75-0.90	4.00-14.00	0.05-0.08	0.0-2.9	1.0-3.0	.10
	36-44	18-22-25	0.75-0.90	4.00-14.00	0.05-0.08	0.0-2.9	0.0-1.0	.10
	44-48	---	---	---	---	---	---	---
Harslow--------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-7	15-15-25	0.75-0.85	4.00-14.00	0.10-0.16	0.0-2.9	5.0-10	.05
	7-13	15-18-25	0.75-0.85	4.00-14.00	0.10-0.16	0.0-2.9	3.0-10	.05
	13-22	20-20-27	0.80-0.85	4.00-14.00	0.05-0.10	0.0-2.9	3.0-5.0	.05
	22-37	15-18-25	0.80-0.85	4.00-14.00	0.05-0.08	0.0-2.9	0.5-3.0	.05
	37-41	---	---	---	---	---	---	---
Rock outcrop---------	0-60	---	---	---	---	---	---	---

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion Kw
	In	Pct	g/cc	um/sec	In/in	Pct	Pct	
44F:								
Harslow----------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-7	15-15-25	0.75-0.85	4.00-14.00	0.10-0.16	0.0-2.9	5.0-10	.05
	7-13	15-18-25	0.75-0.85	4.00-14.00	0.10-0.16	0.0-2.9	3.0-10	.05
	13-22	20-20-27	0.80-0.85	4.00-14.00	0.05-0.10	0.0-2.9	3.0-5.0	.05
	22-37	15-18-25	0.80-0.85	4.00-14.00	0.05-0.08	0.0-2.9	0.5-3.0	.05
	37-41	---	---	---	---	---	---	---
Klistan----------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-7	12-15-18	0.70-0.85	4.00-14.00	0.15-0.20	0.0-2.9	5.0-10	.10
	7-14	18-18-25	0.75-0.85	4.00-14.00	0.15-0.20	0.0-2.9	3.0-10	.10
	14-26	18-18-25	0.75-0.85	4.00-14.00	0.05-0.08	0.0-2.9	3.0-5.0	.15
	26-36	18-18-25	0.75-0.90	4.00-14.00	0.05-0.08	0.0-2.9	1.0-3.0	.10
	36-44	18-22-25	0.75-0.90	4.00-14.00	0.05-0.08	0.0-2.9	0.0-1.0	.10
	44-48	---	---	---	---	---	---	---
Rock outcrop----------	0-60	---	---	---	---	---	---	---
45B:								
Hebo-------------------	0-4	27-28-35	1.10-1.20	1.40-4.00	0.19-0.21	3.0-5.9	7.0-12	.37
	4-10	35-42-45	1.20-1.35	0.42-1.40	0.15-0.21	3.0-5.9	1.0-5.0	.32
	10-18	40-45-60	1.25-1.35	0.01-0.42	0.14-0.17	3.0-5.9	0.5-2.0	.28
	18-26	40-45-60	1.25-1.35	0.01-0.42	0.14-0.17	3.0-5.9	0.5-1.0	.28
	26-35	40-42-60	1.25-1.35	0.01-0.42	0.14-0.17	3.0-5.9	0.5-1.0	.37
	35-60	35-37-45	1.20-1.35	0.01-1.40	0.13-0.21	3.0-5.9	0.0-1.0	.28
48D:								
Hemcross--------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-9	15-18-25	0.75-0.85	4.00-14.00	0.35-0.45	0.0-2.9	5.0-10	.28
	9-20	15-18-25	0.75-0.85	4.00-14.00	0.35-0.45	0.0-2.9	3.0-7.0	.28
	20-49	18-22-30	0.80-0.90	4.00-14.00	0.25-0.35	0.0-2.9	1.0-5.0	.37
	49-62	18-25-30	0.80-0.90	4.00-14.00	0.25-0.35	0.0-2.9	0.0-2.0	.43
Klistan----------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-7	12-15-18	0.70-0.85	4.00-14.00	0.15-0.20	0.0-2.9	5.0-10	.10
	7-14	18-18-25	0.75-0.85	4.00-14.00	0.15-0.20	0.0-2.9	3.0-10	.10
	14-26	18-18-25	0.75-0.85	4.00-14.00	0.05-0.08	0.0-2.9	3.0-5.0	.15
	26-36	18-18-25	0.75-0.90	4.00-14.00	0.05-0.08	0.0-2.9	1.0-3.0	.10
	36-44	18-22-25	0.75-0.90	4.00-14.00	0.05-0.08	0.0-2.9	0.0-1.0	.10
	44-48	---	---	---	---	---	---	---

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion Kw
	In	*Pct*	*g/cc*	*um/sec*	*In/in*	*Pct*	*Pct*	
48E:								
Hemcross-------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-9	15-18-25	0.75-0.85	4.00-14.00	0.35-0.45	0.0-2.9	5.0-10	.28
	9-20	15-18-25	0.75-0.85	4.00-14.00	0.35-0.45	0.0-2.9	3.0-7.0	.28
	20-49	18-22-30	0.80-0.90	4.00-14.00	0.25-0.35	0.0-2.9	1.0-5.0	.37
	49-62	18-25-30	0.80-0.90	4.00-14.00	0.25-0.35	0.0-2.9	0.0-2.0	.43
Klistan--------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-7	12-15-18	0.70-0.85	4.00-14.00	0.15-0.20	0.0-2.9	5.0-10	.10
	7-14	18-18-25	0.75-0.85	4.00-14.00	0.15-0.20	0.0-2.9	3.0-10	.10
	14-26	18-18-25	0.75-0.85	4.00-14.00	0.05-0.08	0.0-2.9	3.0-5.0	.15
	26-36	18-18-25	0.75-0.90	4.00-14.00	0.05-0.08	0.0-2.9	1.0-3.0	.10
	36-44	18-22-25	0.75-0.90	4.00-14.00	0.05-0.08	0.0-2.9	0.0-1.0	.10
	44-48	---	---	---	---	---	---	---
50B:								
Walluski-------------	0-2	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	2-13	18-25-27	0.85-1.00	4.00-14.00	0.25-0.35	0.0-2.9	5.0-10	.37
	13-27	22-30-35	1.00-1.20	1.40-14.00	0.19-0.21	3.0-5.9	1.0-5.0	.37
	27-36	22-33-35	1.00-1.20	1.40-14.00	0.19-0.21	3.0-5.9	1.0-3.0	.37
	36-62	27-28-45	1.10-1.35	0.42-4.00	0.19-0.21	3.0-8.9	0.5-2.0	.43
51B:								
Walluski-------------	0-2	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	2-13	18-25-27	0.85-1.00	4.00-14.00	0.25-0.35	0.0-2.9	5.0-10	.37
	13-27	22-30-35	1.00-1.20	1.40-14.00	0.19-0.21	3.0-5.9	1.0-5.0	.37
	27-36	22-33-35	1.00-1.20	1.40-14.00	0.19-0.21	3.0-5.9	1.0-3.0	.37
	36-62	27-28-45	1.10-1.35	0.42-4.00	0.19-0.21	3.0-8.9	0.5-2.0	.43
Chitwood-------------	0-7	20-22-27	0.90-1.00	4.00-14.00	0.25-0.35	0.0-2.9	9.0-10	.32
	7-11	20-26-27	0.90-1.00	4.00-14.00	0.25-0.35	0.0-2.9	5.0-7.0	.37
	11-19	30-34-37	1.10-1.20	1.40-4.00	0.19-0.21	3.0-5.9	3.0-5.0	.32
	19-29	35-42-45	1.20-1.35	0.42-1.40	0.15-0.21	3.0-5.9	2.0-3.0	.32
	29-60	35-37-45	1.20-1.35	0.42-1.40	0.15-0.21	3.0-5.9	0.5-2.0	.37
51C:								
Walluski-------------	0-2	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	2-13	18-25-27	0.85-1.00	4.00-14.00	0.25-0.35	0.0-2.9	5.0-10	.37
	13-27	22-30-35	1.00-1.20	1.40-14.00	0.19-0.21	3.0-5.9	1.0-5.0	.37
	27-36	22-33-35	1.00-1.20	1.40-14.00	0.19-0.21	3.0-5.9	1.0-3.0	.37
	36-62	27-28-45	1.10-1.35	0.42-4.00	0.19-0.21	3.0-8.9	0.5-2.0	.43

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion Kw
	In	Pct	g/cc	um/sec	In/in	Pct	Pct	
51C:								
Chitwood-------------	0-7	20-22-27	0.90-1.00	4.00-14.00	0.25-0.35	0.0-2.9	9.0-10	.32
	7-11	20-26-27	0.90-1.00	4.00-14.00	0.25-0.35	0.0-2.9	5.0-7.0	.37
	11-19	30-34-37	1.10-1.20	1.40-4.00	0.19-0.21	3.0-5.9	3.0-5.0	.32
	19-29	35-42-45	1.20-1.35	0.42-1.40	0.15-0.21	3.0-5.9	2.0-3.0	.32
	29-60	35-37-45	1.20-1.35	0.42-1.40	0.15-0.21	3.0-5.9	0.5-2.0	.37
54B:								
Knappa---------------	0-9	18-22-25	0.85-1.00	4.00-14.00	0.25-0.35	0.0-2.9	8.0-10	.37
	9-20	18-25-25	0.90-1.00	4.00-14.00	0.25-0.35	0.0-2.9	3.0-6.0	.37
	20-25	25-28-35	1.10-1.25	4.00-14.00	0.17-0.21	3.0-5.9	1.0-3.0	.37
	25-45	25-28-35	1.10-1.25	4.00-14.00	0.17-0.21	3.0-5.9	1.0-3.0	.37
	45-60	25-30-35	1.10-1.25	4.00-14.00	0.15-0.21	3.0-5.9	0.5-2.0	.37
55A:								
Histosols------------	0-7	10-25-35	0.10-0.20	4.00-14.00	0.30-0.60	---	65-95	---
	7-13	10-25-35	0.10-0.30	4.00-14.00	0.30-0.60	---	65-95	---
	13-20	10-25-35	0.10-0.30	4.00-14.00	0.30-0.60	---	65-95	---
	20-32	10-25-35	0.90-1.35	1.40-42.00	0.15-0.21	0.0-5.9	5.0-12	.37
	32-60	10-28-35	0.90-1.35	1.40-42.00	0.15-0.21	0.0-5.9	5.0-12	.37
Water----------------	---	---	---	---	---	---	---	---
56B:								
Wolfer---------------	0-8	12-23-25	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	10-17	.32
	8-14	12-23-25	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	7.0-12	.28
	14-22	12-25-27	0.80-0.90	4.00-14.00	0.30-0.35	0.0-2.9	3.0-7.0	.32
	22-35	20-28-30	0.85-0.90	4.00-14.00	0.15-0.30	0.0-2.9	1.0-3.0	.37
	35-60	5-25-25	1.10-1.45	42.00-141.00	0.04-0.07	0.0-2.9	0.0-1.0	.05
56C:								
Wolfer---------------	0-8	12-23-25	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	10-17	.32
	8-14	12-23-25	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	7.0-12	.28
	14-22	12-25-27	0.80-0.90	4.00-14.00	0.30-0.35	0.0-2.9	3.0-7.0	.32
	22-35	20-28-30	0.85-0.90	4.00-14.00	0.15-0.30	0.0-2.9	1.0-3.0	.37
	35-60	5-25-25	1.10-1.45	42.00-141.00	0.04-0.07	0.0-2.9	0.0-1.0	.05
57B:								
Condorbridge---------	0-5	20-20-25	0.85-1.00	42.00-141.00	0.25-0.35	0.0-2.9	15-25	.15
	5-12	20-25-25	0.90-1.00	4.00-141.00	0.25-0.35	0.0-2.9	7.0-12	.10
	12-26	20-25-25	0.90-1.20	4.00-141.00	0.20-0.25	0.0-2.9	3.0-7.0	.15
	26-35	20-28-35	1.20-1.35	1.40-14.00	0.16-0.21	0.0-2.9	1.0-2.0	.32
	35-53	20-29-35	1.20-1.35	1.40-14.00	0.16-0.21	0.0-2.9	1.0-2.0	.32
	53-60	20-33-35	1.20-1.35	1.40-14.00	0.16-0.21	0.0-2.9	0.5-1.0	.28

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion
								Kw
	In	Pct	g/cc	um/sec	In/in	Pct	Pct	
57C:								
Condorbridge---------	0-5	20-20-25	0.85-1.00	42.00-141.00	0.25-0.35	0.0-2.9	15-25	.15
	5-12	20-25-25	0.90-1.00	4.00-141.00	0.25-0.35	0.0-2.9	7.0-12	.10
	12-26	20-25-25	0.90-1.20	4.00-141.00	0.20-0.25	0.0-2.9	3.0-7.0	.15
	26-35	20-28-35	1.20-1.35	1.40-14.00	0.16-0.21	0.0-2.9	1.0-2.0	.32
	35-53	20-29-35	1.20-1.35	1.40-14.00	0.16-0.21	0.0-2.9	1.0-2.0	.32
	53-60	20-33-35	1.20-1.35	1.40-14.00	0.16-0.21	0.0-2.9	0.5-1.0	.28
58C:								
Knappa---------------	0-9	18-22-25	0.85-1.00	4.00-14.00	0.25-0.35	0.0-2.9	8.0-10	.37
	9-20	18-25-25	0.90-1.00	4.00-14.00	0.25-0.35	0.0-2.9	3.0-6.0	.37
	20-25	25-28-35	1.10-1.25	4.00-14.00	0.17-0.21	3.0-5.9	1.0-3.0	.37
	25-45	25-28-35	1.10-1.25	4.00-14.00	0.17-0.21	3.0-5.9	1.0-3.0	.37
	45-60	25-30-35	1.10-1.25	4.00-14.00	0.15-0.21	3.0-5.9	0.5-2.0	.37
59B:								
Chitwood-------------	0-7	20-22-27	0.90-1.00	4.00-14.00	0.25-0.35	0.0-2.9	9.0-10	.32
	7-11	20-26-27	0.90-1.00	4.00-14.00	0.25-0.35	0.0-2.9	5.0-7.0	.37
	11-19	30-34-37	1.10-1.20	1.40-4.00	0.19-0.21	3.0-5.9	3.0-5.0	.32
	19-29	35-42-45	1.20-1.35	0.42-1.40	0.15-0.21	3.0-5.9	2.0-3.0	.32
	29-60	35-37-45	1.20-1.35	0.42-1.40	0.15-0.21	3.0-5.9	0.5-2.0	.37
Knappa---------------	0-9	18-22-25	0.85-1.00	4.00-14.00	0.25-0.35	0.0-2.9	8.0-10	.37
	9-20	18-25-25	0.90-1.00	4.00-14.00	0.25-0.35	0.0-2.9	3.0-6.0	.37
	20-25	25-28-35	1.10-1.25	4.00-14.00	0.17-0.21	3.0-5.9	1.0-3.0	.37
	25-45	25-28-35	1.10-1.25	4.00-14.00	0.17-0.21	3.0-5.9	1.0-3.0	.37
	45-60	25-30-35	1.10-1.25	4.00-14.00	0.15-0.21	3.0-5.9	0.5-2.0	.37
60E:								
Caterl---------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-6	12-15-20	0.70-0.85	4.00-14.00	0.20-0.25	0.0-2.9	10-12	.15
	6-12	12-18-20	0.70-0.85	4.00-14.00	0.15-0.20	0.0-2.9	7.0-10	.10
	12-18	12-20-20	0.70-0.85	4.00-14.00	0.15-0.20	0.0-2.9	5.0-10	.10
	18-35	18-22-30	0.75-0.85	4.00-14.00	0.10-0.16	0.0-2.9	1.0-3.0	.10
	35-53	12-24-27	0.75-0.85	4.00-14.00	0.05-0.10	0.0-2.9	0.0-1.0	.05
	53-57	---	---	---	---	---	---	---
Laderly--------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-13	12-18-20	0.75-0.85	14.00-42.00	0.15-0.20	0.0-2.9	7.0-12	.10
	13-22	15-20-27	0.75-0.85	14.00-42.00	0.05-0.10	0.0-2.9	5.0-10	.10
	22-30	15-20-27	0.75-0.85	14.00-42.00	0.05-0.10	0.0-2.9	0.0-3.0	.05
	30-34	---	---	---	---	---	---	---
Rock outcrop---------	0-60	---	---	---	---	---	---	---

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion Kw
	In	*Pct*	*g/cc*	*um/sec*	*In/in*	*Pct*	*Pct*	
60F:								
Laderly---------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-13	12-18-20	0.75-0.85	14.00-42.00	0.15-0.20	0.0-2.9	7.0-12	.10
	13-22	15-20-27	0.75-0.85	14.00-42.00	0.05-0.10	0.0-2.9	5.0-10	.10
	22-30	15-20-27	0.75-0.85	14.00-42.00	0.05-0.10	0.0-2.9	0.0-3.0	.05
	30-34	---	---	---	---	---	---	---
Caterl----------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-6	12-15-20	0.70-0.85	4.00-14.00	0.20-0.25	0.0-2.9	10-12	.15
	6-12	12-18-20	0.70-0.85	4.00-14.00	0.15-0.20	0.0-2.9	7.0-10	.10
	12-18	12-20-20	0.70-0.85	4.00-14.00	0.15-0.20	0.0-2.9	5.0-10	.10
	18-35	18-22-30	0.75-0.85	4.00-14.00	0.10-0.16	0.0-2.9	1.0-3.0	.10
	35-53	12-24-27	0.75-0.85	4.00-14.00	0.05-0.10	0.0-2.9	0.0-1.0	.05
	53-57	---	---	---	---	---	---	---
Rock outcrop----------	0-60	---	---	---	---	---	---	---
61F:								
Laderly, south slopes	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-13	12-18-20	0.75-0.85	14.00-42.00	0.15-0.20	0.0-2.9	7.0-12	.10
	13-22	15-20-27	0.75-0.85	14.00-42.00	0.05-0.10	0.0-2.9	5.0-10	.10
	22-30	15-20-27	0.75-0.85	14.00-42.00	0.05-0.10	0.0-2.9	0.0-3.0	.05
	30-34	---	---	---	---	---	---	---
Rock outcrop, south slopes--------------	0-60	---	---	---	---	---	---	---
Caterl, south slopes	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-6	12-15-20	0.70-0.85	4.00-14.00	0.20-0.25	0.0-2.9	10-12	.15
	6-12	12-18-20	0.70-0.85	4.00-14.00	0.15-0.20	0.0-2.9	7.0-10	.10
	12-18	12-20-20	0.70-0.85	4.00-14.00	0.15-0.20	0.0-2.9	5.0-10	.10
	18-35	18-22-30	0.75-0.85	4.00-14.00	0.10-0.16	0.0-2.9	1.0-3.0	.10
	35-53	12-24-27	0.75-0.85	4.00-14.00	0.05-0.10	0.0-2.9	0.0-1.0	.05
	53-57	---	---	---	---	---	---	---
62F:								
Rock outcrop----------	0-60	---	---	---	---	---	---	---
Laderly---------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-13	12-18-20	0.75-0.85	14.00-42.00	0.15-0.20	0.0-2.9	7.0-12	.10
	13-22	15-20-27	0.75-0.85	14.00-42.00	0.05-0.10	0.0-2.9	5.0-10	.10
	22-30	15-20-27	0.75-0.85	14.00-42.00	0.05-0.10	0.0-2.9	0.0-3.0	.05
	30-34	---	---	---	---	---	---	---

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion Kw
	In	Pct	g/cc	um/sec	In/in	Pct	Pct	
70D:								
Murtip	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-7	12-15-20	0.70-0.85	4.00-14.00	0.35-0.45	0.0-2.9	10-12	.32
	7-14	12-18-20	0.70-0.85	4.00-14.00	0.35-0.45	0.0-2.9	7.0-10	.28
	14-24	18-22-30	0.75-0.85	4.00-14.00	0.20-0.25	0.0-2.9	3.0-10	.37
	24-43	18-24-30	0.75-0.85	4.00-14.00	0.20-0.25	0.0-2.9	1.0-3.0	.43
	43-50	18-22-30	0.75-0.85	4.00-14.00	0.12-0.20	0.0-2.9	0.0-1.0	.37
	50-60	---	---	---	---	---	---	---
Caterl	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-6	12-15-20	0.70-0.85	4.00-14.00	0.20-0.25	0.0-2.9	10-12	.15
	6-12	12-18-20	0.70-0.85	4.00-14.00	0.15-0.20	0.0-2.9	7.0-10	.10
	12-18	12-20-20	0.70-0.85	4.00-14.00	0.15-0.20	0.0-2.9	5.0-10	.10
	18-35	18-22-30	0.75-0.85	4.00-14.00	0.10-0.16	0.0-2.9	1.0-3.0	.10
	35-53	12-24-27	0.75-0.85	4.00-14.00	0.05-0.10	0.0-2.9	0.0-1.0	.05
	53-57	---	---	---	---	---	---	---
Laderly	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-13	12-18-20	0.75-0.85	14.00-42.00	0.15-0.20	0.0-2.9	7.0-12	.10
	13-22	15-20-27	0.75-0.85	14.00-42.00	0.05-0.10	0.0-2.9	5.0-10	.10
	22-30	15-20-27	0.75-0.85	14.00-42.00	0.05-0.10	0.0-2.9	0.0-3.0	.05
	30-34	---	---	---	---	---	---	---
70E:								
Murtip	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-7	12-15-20	0.70-0.85	4.00-14.00	0.35-0.45	0.0-2.9	10-12	.32
	7-14	12-18-20	0.70-0.85	4.00-14.00	0.35-0.45	0.0-2.9	7.0-10	.28
	14-24	18-22-30	0.75-0.85	4.00-14.00	0.20-0.25	0.0-2.9	3.0-10	.37
	24-43	18-24-30	0.75-0.85	4.00-14.00	0.20-0.25	0.0-2.9	1.0-3.0	.43
	43-50	18-22-30	0.75-0.85	4.00-14.00	0.12-0.20	0.0-2.9	0.0-1.0	.37
	50-60	---	---	---	---	---	---	---
Caterl	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-6	12-15-20	0.70-0.85	4.00-14.00	0.20-0.25	0.0-2.9	10-12	.15
	6-12	12-18-20	0.70-0.85	4.00-14.00	0.15-0.20	0.0-2.9	7.0-10	.10
	12-18	12-20-20	0.70-0.85	4.00-14.00	0.15-0.20	0.0-2.9	5.0-10	.10
	18-35	18-22-30	0.75-0.85	4.00-14.00	0.10-0.16	0.0-2.9	1.0-3.0	.10
	35-53	12-24-27	0.75-0.85	4.00-14.00	0.05-0.10	0.0-2.9	0.0-1.0	.05
	53-57	---	---	---	---	---	---	---
Laderly	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-13	12-18-20	0.75-0.85	14.00-42.00	0.15-0.20	0.0-2.9	7.0-12	.10
	13-22	15-20-27	0.75-0.85	14.00-42.00	0.05-0.10	0.0-2.9	5.0-10	.10
	22-30	15-20-27	0.75-0.85	14.00-42.00	0.05-0.10	0.0-2.9	0.0-3.0	.05
	30-34	---	---	---	---	---	---	---

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion Kw
	In	Pct	g/cc	um/sec	In/in	Pct	Pct	
71D:								
McMille	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-5	18-23-27	0.85-0.90	4.00-14.00	0.25-0.35	0.0-2.9	5.0-10	.37
	5-14	18-23-27	0.85-1.00	4.00-14.00	0.20-0.25	0.0-2.9	2.0-5.0	.37
	14-20	25-26-35	0.90-1.10	4.00-14.00	0.19-0.21	3.0-5.9	0.5-2.0	.43
	20-32	25-28-35	0.90-1.20	4.00-14.00	0.19-0.21	3.0-5.9	0.5-2.0	.43
	32-45	18-27-35	0.90-1.20	4.00-14.00	0.19-0.21	3.0-5.9	0.0-1.0	.55
	45-55	---	---	---	---	---	---	---
Mutt	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-4	18-18-25	0.85-0.90	4.00-14.00	0.25-0.35	0.0-2.9	5.0-10	.37
	4-13	18-20-27	0.85-1.00	4.00-14.00	0.20-0.25	0.0-2.9	2.0-5.0	.37
	13-25	25-30-34	0.90-1.20	4.00-14.00	0.19-0.21	3.0-5.9	0.5-2.0	.49
	25-35	---	---	---	---	---	---	---
72D:								
Caterl, clayey	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-6	18-25-25	0.80-0.85	4.00-14.00	0.15-0.20	0.0-2.9	10-12	.10
	6-12	18-25-25	0.80-0.85	4.00-14.00	0.15-0.20	0.0-2.9	7.0-10	.10
	12-18	18-25-25	0.80-0.85	4.00-14.00	0.15-0.20	0.0-2.9	5.0-10	.10
	18-41	27-28-30	0.85-0.90	4.00-14.00	0.08-0.16	0.0-2.9	1.0-3.0	.10
	41-53	30-34-40	0.90-1.10	1.40-4.00	0.08-0.12	3.0-5.9	0.0-1.0	.10
	53-57	---	---	---	---	---	---	---
Murtip, clayey	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-7	20-22-25	0.80-0.85	4.00-14.00	0.25-0.30	0.0-2.9	10-12	.17
	7-14	20-25-25	0.80-0.85	4.00-14.00	0.25-0.30	0.0-2.9	7.0-10	.15
	14-24	25-28-30	0.85-0.90	4.00-14.00	0.15-0.25	0.0-2.9	3.0-7.0	.15
	24-43	27-28-30	0.85-0.90	4.00-14.00	0.15-0.25	0.0-2.9	1.0-3.0	.20
	43-50	35-35-40	0.90-1.10	1.40-4.00	0.15-0.25	3.0-5.9	0.0-1.0	.20
	50-60	---	---	---	---	---	---	---
73A:								
Nehalem, frequent flooding	0-9	18-25-25	1.00-1.20	4.00-14.00	0.19-0.21	0.0-2.9	5.0-10	.37
	9-16	18-22-25	1.00-1.20	4.00-14.00	0.19-0.21	0.0-2.9	2.0-5.0	.37
	16-48	18-22-30	1.00-1.35	1.40-14.00	0.19-0.21	0.0-2.9	1.0-5.0	.43
	48-60	12-25-30	1.00-1.40	1.40-42.00	0.13-0.21	0.0-2.9	0.5-3.0	.43
74A:								
Nehalem, occasional flooding	0-9	18-25-25	1.00-1.20	4.00-14.00	0.19-0.21	0.0-2.9	5.0-10	.37
	9-16	18-22-25	1.00-1.20	4.00-14.00	0.19-0.21	0.0-2.9	2.0-5.0	.37
	16-48	18-22-30	1.00-1.35	1.40-14.00	0.19-0.21	0.0-2.9	1.0-5.0	.43
	48-60	12-25-30	1.00-1.40	1.40-42.00	0.13-0.21	0.0-2.9	0.5-3.0	.43

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion Kw
	In	Pct	g/cc	um/sec	In/in	Pct	Pct	
76A:								
Nestucca-------------	0-6	20-22-25	1.00-1.20	4.00-14.00	0.19-0.21	3.0-5.9	5.0-10	.28
	6-14	20-22-25	1.00-1.20	4.00-14.00	0.19-0.21	3.0-5.9	2.0-5.0	.32
	14-41	25-30-35	1.00-1.35	1.40-14.00	0.19-0.21	3.0-5.9	1.0-5.0	.37
	41-60	27-42-45	1.20-1.35	0.42-4.00	0.15-0.21	3.0-8.9	0.5-3.0	.32
77A:								
Nestucca-------------	0-6	20-22-25	1.00-1.20	4.00-14.00	0.19-0.21	3.0-5.9	5.0-10	.28
	6-14	20-22-25	1.00-1.20	4.00-14.00	0.19-0.21	3.0-5.9	2.0-5.0	.32
	14-41	25-30-35	1.00-1.35	1.40-14.00	0.19-0.21	3.0-5.9	1.0-5.0	.37
	41-60	27-42-45	1.20-1.35	0.42-4.00	0.15-0.21	3.0-8.9	0.5-3.0	.32
Brenner--------------	0-7	20-25-27	1.00-1.20	4.00-14.00	0.19-0.21	3.0-5.9	5.0-10	.37
	7-12	20-28-30	1.00-1.35	1.40-14.00	0.19-0.21	3.0-5.9	5.0-10	.32
	12-18	20-29-35	1.00-1.35	1.40-14.00	0.19-0.21	3.0-5.9	2.0-5.0	.37
	18-26	20-32-35	1.00-1.35	1.40-14.00	0.19-0.21	3.0-5.9	2.0-5.0	.32
	26-40	20-35-35	1.00-1.35	1.40-14.00	0.19-0.21	3.0-5.9	1.0-5.0	.32
	40-55	27-42-50	1.20-1.35	0.42-4.00	0.15-0.21	3.0-8.9	0.5-3.0	.28
	55-60	27-45-50	1.20-1.35	0.42-4.00	0.15-0.21	3.0-8.9	0.5-3.0	.28
80B:								
Quillamook-----------	0-8	18-25-25	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	15-25	.37
	8-17	18-25-25	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	7.0-12	.37
	17-28	18-25-25	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	7.0-10	.37
	28-47	18-30-30	0.80-0.90	4.00-14.00	0.25-0.30	0.0-2.9	2.0-5.0	.32
	47-60	18-30-30	0.80-0.90	4.00-14.00	0.25-0.30	0.0-2.9	0.5-1.0	.37
81B:								
Quillamook, gravelly substratum----------	0-9	18-20-25	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	15-25	.37
	9-19	18-22-25	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	7.0-12	.37
	19-27	18-24-25	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	7.0-10	.37
	27-39	18-26-30	0.80-0.90	4.00-14.00	0.15-0.30	0.0-2.9	2.0-5.0	.37
	39-47	18-26-30	0.80-0.90	4.00-14.00	0.15-0.30	0.0-2.9	0.5-2.0	.43
	47-60	5-5-10	1.25-1.50	42.00-141.00	0.01-0.02	0.0-2.9	0.5-1.0	.02
Quillamook-----------	0-8	18-25-25	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	15-25	.37
	8-17	18-25-25	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	7.0-12	.37
	17-28	18-25-25	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	7.0-10	.37
	28-47	18-30-30	0.80-0.90	4.00-14.00	0.25-0.30	0.0-2.9	2.0-5.0	.32
	47-60	18-30-30	0.80-0.90	4.00-14.00	0.25-0.30	0.0-2.9	0.5-1.0	.37

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion Kw
	In	*Pct*	*g/cc*	*um/sec*	*In/in*	*Pct*	*Pct*	
81C:								
Quillamook, gravelly substratum	0-9	18-20-25	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	15-25	.37
	9-19	18-22-25	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	7.0-12	.37
	19-27	18-24-25	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	7.0-10	.37
	27-39	18-26-30	0.80-0.90	4.00-14.00	0.15-0.30	0.0-2.9	2.0-5.0	.37
	39-47	18-26-30	0.80-0.90	4.00-14.00	0.15-0.30	0.0-2.9	0.5-2.0	.43
	47-60	5-5-10	1.25-1.50	42.00-141.00	0.01-0.02	0.0-2.9	0.5-1.0	.02
Quillamook	0-8	18-25-25	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	15-25	.37
	8-17	18-25-25	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	7.0-12	.37
	17-28	18-25-25	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	7.0-10	.37
	28-47	18-30-30	0.80-0.90	4.00-14.00	0.25-0.30	0.0-2.9	2.0-5.0	.32
	47-60	18-30-30	0.80-0.90	4.00-14.00	0.25-0.30	0.0-2.9	0.5-1.0	.37
89A:								
Udifluvents	0-7	3-10-15	1.30-1.45	14.00-141.00	0.06-0.15	0.0-2.9	3.0-7.0	.24
	7-38	3-8-10	1.35-1.45	14.00-141.00	0.06-0.13	0.0-2.9	1.0-3.0	.15
	38-60	3-3-10	1.35-1.50	14.00-141.00	0.02-0.13	0.0-2.9	0.5-3.0	.20
Riverwash	0-60	---	---	---	---	---	---	---
Water	---	---	---	---	---	---	---	---
90A:								
Yachats	0-9	5-15-18	1.25-1.35	4.00-14.00	0.15-0.17	0.0-2.9	5.0-10	.32
	9-19	5-18-18	1.00-1.40	4.00-42.00	0.13-0.21	0.0-2.9	1.0-5.0	.32
	19-39	5-5-15	1.25-1.50	4.00-141.00	0.09-0.17	0.0-2.9	0.5-3.0	.32
	39-54	5-8-15	1.25-1.50	4.00-141.00	0.09-0.17	0.0-2.9	0.5-3.0	.28
	54-60	5-15-15	1.25-1.50	4.00-141.00	0.09-0.17	0.0-2.9	0.5-3.0	.37
91A:								
Gauldy	0-10	15-15-18	1.10-1.30	14.00-42.00	0.14-0.18	0.0-2.9	3.0-5.0	.28
	10-26	10-15-15	1.15-1.40	14.00-42.00	0.11-0.18	0.0-2.9	0.5-1.0	.24
	26-38	0-5-10	1.30-1.50	42.00-141.00	0.01-0.05	0.0-2.9	0.0-0.5	.02
	38-55	0-8-10	1.30-1.50	42.00-141.00	0.02-0.10	0.0-2.9	0.0-0.5	.24
	55-60	0-3-5	1.30-1.50	42.00-141.00	0.01-0.05	0.0-2.9	0.0-0.5	.02
92A:								
Yachats	0-9	5-15-18	1.25-1.35	4.00-14.00	0.15-0.17	0.0-2.9	5.0-10	.32
	9-19	5-18-18	1.00-1.40	4.00-42.00	0.13-0.21	0.0-2.9	1.0-5.0	.32
	19-39	5-5-15	1.25-1.50	4.00-141.00	0.09-0.17	0.0-2.9	0.5-3.0	.32
	39-54	5-8-15	1.25-1.50	4.00-141.00	0.09-0.17	0.0-2.9	0.5-3.0	.28
	54-60	5-15-15	1.25-1.50	4.00-141.00	0.09-0.17	0.0-2.9	0.5-3.0	.37

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion
								Kw
	In	*Pct*	*g/cc*	*um/sec*	*In/in*	*Pct*	*Pct*	
92A:								
Gauldy---------------	0-10	15-15-18	1.10-1.30	14.00-42.00	0.14-0.18	0.0-2.9	3.0-5.0	.28
	10-26	10-15-15	1.15-1.40	14.00-42.00	0.11-0.18	0.0-2.9	0.5-1.0	.24
	26-38	0-5-10	1.30-1.50	42.00-141.00	0.01-0.05	0.0-2.9	0.0-0.5	.02
	38-55	0-8-10	1.30-1.50	42.00-141.00	0.02-0.10	0.0-2.9	0.0-0.5	.24
	55-60	0-3-5	1.30-1.50	42.00-141.00	0.01-0.05	0.0-2.9	0.0-0.5	.02
93B:								
Gauldy, occasional flooding------------	0-10	15-15-18	1.10-1.30	14.00-42.00	0.14-0.18	0.0-2.9	3.0-5.0	.28
	10-26	10-15-15	1.15-1.40	14.00-42.00	0.11-0.18	0.0-2.9	0.5-1.0	.24
	26-38	0-5-10	1.30-1.50	42.00-141.00	0.01-0.05	0.0-2.9	0.0-0.5	.02
	38-55	0-8-10	1.30-1.50	42.00-141.00	0.02-0.10	0.0-2.9	0.0-0.5	.24
	55-60	0-3-5	1.30-1.50	42.00-141.00	0.01-0.05	0.0-2.9	0.0-0.5	.02
Gauldy, rare flooding	0-10	15-15-18	1.10-1.30	14.00-42.00	0.14-0.18	0.0-2.9	3.0-5.0	.28
	10-26	10-15-15	1.15-1.40	14.00-42.00	0.11-0.18	0.0-2.9	0.5-1.0	.24
	26-38	0-5-10	1.30-1.50	42.00-141.00	0.01-0.05	0.0-2.9	0.0-0.5	.02
	38-55	0-8-10	1.30-1.50	42.00-141.00	0.02-0.10	0.0-2.9	0.0-0.5	.24
	55-60	0-3-5	1.30-1.50	42.00-141.00	0.01-0.05	0.0-2.9	0.0-0.5	.02
94B:								
Ginger---------------	0-8	18-25-25	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	10-17	.32
	8-17	18-25-25	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	7.0-12	.32
	17-20	30-32-35	1.10-1.25	1.40-4.00	0.17-0.21	3.0-5.9	2.0-5.0	.37
	20-28	35-42-50	1.20-1.35	0.42-1.40	0.13-0.17	5.9-8.9	1.0-3.0	.32
	28-38	35-45-50	1.20-1.35	0.42-1.40	0.13-0.17	5.9-8.9	1.0-2.0	.28
	38-52	35-42-50	1.20-1.35	0.42-1.40	0.13-0.17	5.9-8.9	0.5-1.0	.32
	52-60	3-10-15	1.25-1.50	14.00-141.00	0.02-0.13	0.0-2.9	0.5-1.0	.02
Quillamook-----------	0-8	18-25-25	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	15-25	.37
	8-17	18-25-25	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	7.0-12	.37
	17-28	18-25-25	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	7.0-10	.37
	28-47	18-30-30	0.80-0.90	4.00-14.00	0.25-0.30	0.0-2.9	2.0-5.0	.32
	47-60	18-30-30	0.80-0.90	4.00-14.00	0.25-0.30	0.0-2.9	0.5-1.0	.37
Urban land-----------	---	---	---	---	---	---	---	---
95B:								
Urban land-----------	---	---	---	---	---	---	---	---

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion
								Kw
	In	Pct	g/cc	um/sec	In/in	Pct	Pct	
95B:								
Quillamook-----------	0-8	18-25-25	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	15-25	.37
	8-17	18-25-25	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	7.0-12	.37
	17-28	18-25-25	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	7.0-10	.37
	28-47	18-30-30	0.80-0.90	4.00-14.00	0.25-0.30	0.0-2.9	2.0-5.0	.32
	47-60	18-30-30	0.80-0.90	4.00-14.00	0.25-0.30	0.0-2.9	0.5-1.0	.37
96B:								
Ginger---------------	0-8	18-25-25	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	10-17	.32
	8-17	18-25-25	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	7.0-12	.32
	17-20	30-32-35	1.10-1.25	1.40-4.00	0.17-0.21	3.0-5.9	2.0-5.0	.37
	20-28	35-42-50	1.20-1.35	0.42-1.40	0.13-0.17	5.9-8.9	1.0-3.0	.32
	28-38	35-45-50	1.20-1.35	0.42-1.40	0.13-0.17	5.9-8.9	1.0-2.0	.28
	38-52	35-42-50	1.20-1.35	0.42-1.40	0.13-0.17	5.9-8.9	0.5-1.0	.32
	52-60	3-10-15	1.25-1.50	14.00-141.00	0.02-0.13	0.0-2.9	0.5-1.0	.02
Hebo-----------------	0-4	27-28-35	1.10-1.20	1.40-4.00	0.19-0.21	3.0-5.9	7.0-12	.37
	4-10	35-42-45	1.20-1.35	0.42-1.40	0.15-0.21	3.0-5.9	1.0-5.0	.32
	10-18	40-45-60	1.25-1.35	0.01-0.42	0.14-0.17	3.0-5.9	0.5-2.0	.28
	18-26	40-45-60	1.25-1.35	0.01-0.42	0.14-0.17	3.0-5.9	0.5-1.0	.28
	26-35	40-42-60	1.25-1.35	0.01-0.42	0.14-0.17	3.0-5.9	0.5-1.0	.37
	35-60	35-37-45	1.20-1.35	0.01-1.40	0.13-0.21	3.0-5.9	0.0-1.0	.28
99:								
Beaches--------------	0-60	---	---	---	---	---	---	---
100B:								
Urban land-----------	---	---	---	---	---	---	---	---
Udorthents-----------	0-2	5-12-30	1.10-1.65	1.40-141.00	0.04-0.21	0.0-5.9	2.0-17	.05
	2-60	5-8-35	1.20-1.65	1.40-141.00	0.02-0.21	0.0-5.9	0.5-12	.05
101B:								
Urban land, flooded--	---	---	---	---	---	---	---	---
Udorthents, flooded--	0-2	5-12-30	1.10-1.65	1.40-141.00	0.04-0.21	0.0-5.9	2.0-17	.05
	2-60	5-8-35	1.20-1.65	1.40-141.00	0.02-0.21	0.0-5.9	0.5-12	.05
102A:								
Fluvaquents, diked---	0-4	20-22-27	0.80-1.10	4.00-14.00	0.19-0.21	0.0-2.9	4.0-12	.37
	4-7	20-24-27	0.80-1.10	4.00-14.00	0.19-0.21	0.0-2.9	3.0-12	.32
	7-22	20-25-35	0.90-1.20	1.40-14.00	0.15-0.21	0.0-2.9	3.0-12	.32
	22-25	10-10-35	0.90-1.35	1.40-42.00	0.10-0.21	0.0-5.9	3.0-12	.24
	25-45	15-20-35	0.90-1.35	1.40-42.00	0.14-0.21	0.0-5.9	3.0-12	.28
	45-60	5-5-35	0.90-1.35	1.40-141.00	0.05-0.21	0.0-5.9	3.0-12	.05

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion Kw
	In	*Pct*	*g/cc*	*um/sec*	*In/in*	*Pct*	*Pct*	
102A:								
Histosols, diked-----	0-7	10-25-35	0.10-0.20	4.00-14.00	0.30-0.60	---	65-95	---
	7-13	10-25-35	0.10-0.30	4.00-14.00	0.30-0.60	---	65-95	---
	13-20	10-25-35	0.10-0.30	4.00-14.00	0.30-0.60	---	65-95	---
	20-32	10-25-35	0.90-1.35	1.40-42.00	0.15-0.21	0.0-5.9	5.0-12	.37
	32-60	10-28-35	0.90-1.35	1.40-42.00	0.15-0.21	0.0-5.9	5.0-12	.37
103A:								
Coquille, diked------	0-6	20-22-27	0.90-1.10	4.00-14.00	0.19-0.21	0.0-2.9	4.0-10	.37
	6-14	20-25-35	0.95-1.30	4.00-14.00	0.19-0.21	0.0-2.9	1.0-10	.37
	14-34	20-28-35	0.95-1.30	1.40-4.00	0.19-0.21	0.0-2.9	1.0-10	.37
	34-49	25-28-35	1.00-1.30	1.40-4.00	0.19-0.21	0.0-2.9	1.0-10	.37
	49-60	25-28-55	1.00-1.30	0.40-1.40	0.15-0.21	3.0-5.9	0.5-10	.37
104A:								
Coquille, protected--	0-6	20-22-27	0.90-1.10	4.00-14.00	0.19-0.21	0.0-2.9	4.0-10	.37
	6-14	20-25-35	0.95-1.30	4.00-14.00	0.19-0.21	0.0-2.9	1.0-10	.37
	14-34	20-28-35	0.95-1.30	1.40-4.00	0.19-0.21	0.0-2.9	1.0-10	.37
	34-49	25-28-35	1.00-1.30	1.40-4.00	0.19-0.21	0.0-2.9	1.0-10	.37
	49-60	25-28-55	1.00-1.30	0.40-1.40	0.15-0.21	3.0-5.9	0.5-10	.37
Brenner, protected---	0-7	20-25-27	1.00-1.20	4.00-14.00	0.19-0.21	3.0-5.9	5.0-10	.37
	7-12	20-28-30	1.00-1.35	1.40-14.00	0.19-0.21	3.0-5.9	5.0-10	.32
	12-18	20-29-35	1.00-1.35	1.40-14.00	0.19-0.21	3.0-5.9	2.0-5.0	.37
	18-26	20-32-35	1.00-1.35	1.40-14.00	0.19-0.21	3.0-5.9	2.0-5.0	.32
	26-40	20-35-35	1.00-1.35	1.40-14.00	0.19-0.21	3.0-5.9	1.0-5.0	.32
	40-55	27-42-50	1.20-1.35	0.42-4.00	0.15-0.21	3.0-8.9	0.5-3.0	.28
	55-60	27-45-50	1.20-1.35	0.42-4.00	0.15-0.21	3.0-8.9	0.5-3.0	.28
Nehalem, protected---	0-9	18-25-25	1.00-1.20	4.00-14.00	0.19-0.21	0.0-2.9	5.0-10	.37
	9-16	18-22-25	1.00-1.20	4.00-14.00	0.19-0.21	0.0-2.9	2.0-5.0	.37
	16-48	18-22-30	1.00-1.35	1.40-14.00	0.19-0.21	0.0-2.9	1.0-5.0	.43
	48-60	12-25-30	1.00-1.40	1.40-42.00	0.13-0.21	0.0-2.9	0.5-3.0	.43
110F:								
Waldport, thin surface-------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-3	1-3-5	1.40-1.55	42.00-141.00	0.03-0.05	0.0-2.9	3.0-8.0	.02
	3-60	1-1-5	1.40-1.55	42.00-141.00	0.03-0.05	0.0-2.9	0.0-1.0	.02
115A:								
Aquepts--------------	0-3	25-28-35	0.90-1.10	1.40-14.00	0.19-0.25	0.0-2.9	5.0-18	.37
	3-9	18-30-40	1.10-1.30	1.40-14.00	0.19-0.21	0.0-5.9	2.0-4.0	.37
	9-20	18-32-40	1.15-1.30	1.40-14.00	0.19-0.21	0.0-5.9	1.0-3.0	.37
	20-60	10-36-40	1.20-1.35	1.40-42.00	0.13-0.21	0.0-5.9	0.5-3.0	.37

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion
								Kw
	In	Pct	g/cc	um/sec	In/in	Pct	Pct	
116A:								
Aquepts, warm--------	0-9	20-25-40	0.90-1.10	1.40-14.00	0.19-0.21	0.0-5.9	5.0-12	.37
	9-20	20-30-40	1.00-1.30	1.40-14.00	0.19-0.21	0.0-5.9	1.0-3.0	.43
	20-43	20-34-40	1.10-1.30	1.40-14.00	0.19-0.21	0.0-5.9	1.0-3.0	.37
	43-60	20-38-40	1.10-1.30	1.40-14.00	0.19-0.21	0.0-5.9	0.5-2.0	.37
118B:								
Oxyaquic Hapludands, flood plains--------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-20	18-25-27	0.80-0.90	4.00-14.00	0.35-0.45	0.0-2.9	5.0-10	.37
	20-25	5-30-35	1.10-1.50	1.40-141.00	0.01-0.13	0.0-5.9	1.0-3.0	.05
	25-38	3-5-15	1.35-1.50	14.00-141.00	0.01-0.08	0.0-2.9	0.5-1.0	.15
	38-61	3-5-15	1.35-1.50	14.00-141.00	0.01-0.04	0.0-2.9	0.5-1.0	.02
Alic Hapludands, terraces------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-13	15-15-27	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	5.0-10	.20
	13-23	15-15-27	0.75-0.90	4.00-14.00	0.15-0.45	0.0-2.9	1.0-4.0	.32
	23-37	15-15-30	0.80-0.90	4.00-42.00	0.05-0.25	0.0-5.9	0.5-2.0	.24
	37-61	3-5-15	1.35-1.50	14.00-141.00	0.01-0.05	0.0-2.9	0.5-1.0	.02
119B:								
Oxyaquic Fulvudands, flood plains--------	0-19	15-25-25	0.80-0.90	4.00-14.00	0.35-0.45	0.0-2.9	7.0-12	.32
	19-26	3-5-18	0.85-1.45	14.00-141.00	0.01-0.15	0.0-2.9	2.0-5.0	.02
	26-60	3-3-18	0.85-1.45	14.00-141.00	0.01-0.15	0.0-2.9	0.5-3.0	.02
Typic Fulvudands, terraces------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-8	15-18-25	0.80-0.90	4.00-14.00	0.35-0.45	0.0-2.9	10-15	.28
	8-21	15-18-25	0.80-0.90	4.00-14.00	0.35-0.45	0.0-2.9	7.0-10	.37
	21-35	15-20-30	0.80-0.90	4.00-14.00	0.25-0.30	0.0-2.9	2.0-5.0	.43
	35-45	15-20-30	0.80-0.90	4.00-14.00	0.10-0.30	0.0-2.9	1.0-2.0	.15
	45-53	5-20-25	0.80-1.40	4.00-141.00	0.01-0.10	0.0-2.9	0.5-1.0	.05
	53-61	3-15-15	0.80-1.45	4.00-141.00	0.01-0.10	0.0-2.9	0.5-1.0	.02
120C:								
Alic Hapludands, terraces------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-13	15-15-27	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	5.0-10	.20
	13-23	15-15-27	0.75-0.90	4.00-14.00	0.15-0.45	0.0-2.9	1.0-4.0	.32
	23-37	15-15-30	0.80-0.90	4.00-42.00	0.05-0.25	0.0-5.9	0.5-2.0	.24
	37-61	3-5-15	1.35-1.50	14.00-141.00	0.01-0.05	0.0-2.9	0.5-1.0	.02

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion Kw
	In	Pct	g/cc	um/sec	In/in	Pct	Pct	
120C:								
Alic Hapludands, fans	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-11	15-23-27	0.75-0.85	4.00-14.00	0.15-0.20	0.0-2.9	5.0-10	.10
	11-23	15-20-27	0.75-0.85	4.00-14.00	0.05-0.20	0.0-2.9	1.0-3.0	.10
	23-45	15-22-27	0.75-0.85	4.00-14.00	0.05-0.20	0.0-2.9	0.5-2.0	.15
	45-61	15-25-27	0.75-0.85	4.00-14.00	0.05-0.20	0.0-2.9	0.5-1.0	.15
121D:								
Fendall--------------	0-8	20-25-27	0.85-1.00	4.00-14.00	0.25-0.35	0.0-2.9	10-15	.28
	8-13	20-26-27	0.90-1.00	4.00-14.00	0.25-0.35	0.0-2.9	5.0-10	.37
	13-17	30-32-40	1.10-1.20	1.40-4.00	0.17-0.21	3.0-5.9	1.0-2.0	.37
	17-27	35-38-50	1.20-1.30	1.40-4.00	0.11-0.21	3.0-5.9	0.5-1.0	.37
	27-34	35-38-50	1.20-1.30	1.40-4.00	0.11-0.21	3.0-5.9	0.5-1.0	.37
	34-44	---	---	---	---	---	---	---
Munsoncreek----------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-10	18-22-25	0.75-0.95	4.00-14.00	0.25-0.35	0.0-2.9	10-15	.37
	10-18	25-28-35	0.80-1.20	1.40-9.00	0.20-0.25	0.0-2.9	3.0-10	.37
	18-28	35-35-45	1.10-1.30	1.40-4.00	0.12-0.20	3.0-5.9	2.0-5.0	.28
	28-41	35-39-45	1.10-1.30	1.40-4.00	0.12-0.20	3.0-5.9	1.0-2.0	.28
	41-58	35-38-45	1.10-1.30	1.40-4.00	0.12-0.20	3.0-5.9	0.0-1.0	.37
	58-68	---	---	---	---	---	---	---
125B:								
Siletz---------------	0-9	20-22-25	0.80-0.90	4.00-14.00	0.35-0.45	0.0-2.9	10-17	.37
	9-19	20-25-25	0.80-0.90	4.00-14.00	0.35-0.45	0.0-2.9	7.0-10	.28
	19-32	10-28-35	1.05-1.30	1.40-42.00	0.17-0.21	0.0-5.9	2.0-5.0	.37
	32-41	10-28-35	1.05-1.30	1.40-42.00	0.17-0.21	0.0-5.9	1.0-3.0	.32
	41-52	10-15-15	1.25-1.40	14.00-42.00	0.09-0.15	0.0-2.9	0.5-2.0	.28
	52-60	5-5-10	1.25-1.40	14.00-141.00	0.01-0.03	0.0-2.9	0.0-1.0	.02
126B:								
Siletz, warm---------	0-9	20-22-25	0.80-0.90	4.00-14.00	0.35-0.45	0.0-2.9	10-17	.37
	9-19	20-25-25	0.80-0.90	4.00-14.00	0.35-0.45	0.0-2.9	7.0-10	.28
	19-32	10-28-35	1.05-1.30	1.40-42.00	0.17-0.21	0.0-5.9	2.0-5.0	.37
	32-41	10-28-35	1.05-1.30	1.40-42.00	0.17-0.21	0.0-5.9	1.0-3.0	.32
	41-52	10-15-15	1.25-1.40	14.00-42.00	0.09-0.15	0.0-2.9	0.5-2.0	.28
	52-60	5-5-10	1.25-1.40	14.00-141.00	0.01-0.03	0.0-2.9	0.0-1.0	.02
127C:								
Condorbridge, warm---	0-5	20-20-25	0.85-1.00	42.00-141.00	0.25-0.35	0.0-2.9	15-25	.15
	5-12	20-25-25	0.90-1.00	4.00-141.00	0.25-0.35	0.0-2.9	7.0-12	.10
	12-26	20-25-25	0.90-1.20	4.00-141.00	0.20-0.25	0.0-2.9	3.0-7.0	.15
	26-35	20-28-35	1.20-1.35	1.40-14.00	0.16-0.21	0.0-2.9	1.0-2.0	.32
	35-53	20-29-35	1.20-1.35	1.40-14.00	0.16-0.21	0.0-2.9	1.0-2.0	.32
	53-60	20-33-35	1.20-1.35	1.40-14.00	0.16-0.21	0.0-2.9	0.5-1.0	.28

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion Kw
	In	*Pct*	*g/cc*	*um/sec*	*In/in*	*Pct*	*Pct*	
128B:								
Siletz----------------	0-9	20-22-25	0.80-0.90	4.00-14.00	0.35-0.45	0.0-2.9	10-17	.37
	9-19	20-25-25	0.80-0.90	4.00-14.00	0.35-0.45	0.0-2.9	7.0-10	.28
	19-32	10-28-35	1.05-1.30	1.40-42.00	0.17-0.21	0.0-5.9	2.0-5.0	.37
	32-41	10-28-35	1.05-1.30	1.40-42.00	0.17-0.21	0.0-5.9	1.0-3.0	.32
	41-52	10-15-15	1.25-1.40	14.00-42.00	0.09-0.15	0.0-2.9	0.5-2.0	.28
	52-60	5-5-10	1.25-1.40	14.00-141.00	0.01-0.03	0.0-2.9	0.0-1.0	.02
Wolfer----------------	0-8	12-23-25	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	10-17	.32
	8-14	12-23-25	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	7.0-12	.28
	14-22	12-25-27	0.80-0.90	4.00-14.00	0.30-0.35	0.0-2.9	3.0-7.0	.32
	22-35	20-28-30	0.85-0.90	4.00-14.00	0.15-0.30	0.0-2.9	1.0-3.0	.37
	35-60	5-25-25	1.10-1.45	42.00-141.00	0.04-0.07	0.0-2.9	0.0-1.0	.05
144F:								
Harslow, south slopes	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-7	15-15-25	0.75-0.85	4.00-14.00	0.10-0.16	0.0-2.9	5.0-10	.05
	7-13	15-18-25	0.75-0.85	4.00-14.00	0.10-0.16	0.0-2.9	3.0-10	.05
	13-22	20-20-27	0.80-0.85	4.00-14.00	0.05-0.10	0.0-2.9	3.0-5.0	.05
	22-37	15-18-25	0.80-0.85	4.00-14.00	0.05-0.08	0.0-2.9	0.5-3.0	.05
	37-41	---	---	---	---	---	---	---
Rock outcrop, south slopes--------------	0-60	---	---	---	---	---	---	---
Klistan, south slopes	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-7	12-15-18	0.70-0.85	4.00-14.00	0.15-0.20	0.0-2.9	5.0-10	.10
	7-14	18-18-25	0.75-0.85	4.00-14.00	0.15-0.20	0.0-2.9	3.0-10	.10
	14-26	18-18-25	0.75-0.85	4.00-14.00	0.05-0.08	0.0-2.9	3.0-5.0	.15
	26-36	18-18-25	0.75-0.90	4.00-14.00	0.05-0.08	0.0-2.9	1.0-3.0	.10
	36-44	18-22-25	0.75-0.90	4.00-14.00	0.05-0.08	0.0-2.9	0.0-1.0	.10
	44-48	---	---	---	---	---	---	---
145F:								
Rock outcrop---------	0-60	---	---	---	---	---	---	---
Harslow--------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-7	15-15-25	0.75-0.85	4.00-14.00	0.10-0.16	0.0-2.9	5.0-10	.05
	7-13	15-18-25	0.75-0.85	4.00-14.00	0.10-0.16	0.0-2.9	3.0-10	.05
	13-22	20-20-27	0.80-0.85	4.00-14.00	0.05-0.10	0.0-2.9	3.0-5.0	.05
	22-37	15-18-25	0.80-0.85	4.00-14.00	0.05-0.08	0.0-2.9	0.5-3.0	.05
	37-41	---	---	---	---	---	---	---

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion
								Kw
	In	Pct	g/cc	um/sec	In/in	Pct	Pct	
156F:								
Sevencedars----------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-6	10-18-27	0.75-0.85	4.00-14.00	0.25-0.30	0.0-2.9	5.0-10	.20
	6-13	10-21-27	0.75-0.85	4.00-14.00	0.15-0.20	0.0-2.9	5.0-10	.15
	13-28	10-25-27	0.75-0.85	4.00-14.00	0.04-0.20	0.0-2.9	3.0-7.0	.15
	28-53	10-20-27	0.80-0.90	4.00-14.00	0.04-0.20	0.0-2.9	0.0-2.0	.20
	53-68	10-15-27	0.95-1.10	4.00-14.00	0.04-0.20	0.0-2.9	0.0-1.0	.10
Newanna--------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-11	10-23-25	0.75-0.90	4.00-14.00	0.15-0.20	0.0-2.9	5.0-8.0	.15
	11-32	10-25-25	0.70-0.85	4.00-14.00	0.09-0.11	0.0-2.9	3.0-5.0	.10
	32-38	10-22-25	0.70-0.85	4.00-14.00	0.09-0.11	0.0-2.9	0.5-1.0	.15
	38-42	---	---	---	---	---	---	---
157D:								
Caterl, till								
substratum----------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-5	12-15-18	0.75-0.90	4.00-14.00	0.15-0.20	0.0-2.9	10-12	.10
	5-17	12-15-18	0.80-0.90	4.00-14.00	0.10-0.20	0.0-2.9	5.0-10	.10
	17-42	18-22-25	0.80-0.90	4.00-14.00	0.05-0.20	0.0-2.9	1.0-3.0	.10
	42-62	18-22-25	0.85-1.10	4.00-14.00	0.05-0.10	0.0-2.9	0.0-1.0	.05
157E:								
Caterl, till								
substratum----------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-5	12-15-18	0.75-0.90	4.00-14.00	0.15-0.20	0.0-2.9	10-12	.10
	5-17	12-15-18	0.80-0.90	4.00-14.00	0.10-0.20	0.0-2.9	5.0-10	.10
	17-42	18-22-25	0.80-0.90	4.00-14.00	0.05-0.20	0.0-2.9	1.0-3.0	.10
	42-62	18-22-25	0.85-1.10	4.00-14.00	0.05-0.10	0.0-2.9	0.0-1.0	.05
157F:								
Caterl, till								
substratum----------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-5	12-15-18	0.75-0.90	4.00-14.00	0.15-0.20	0.0-2.9	10-12	.10
	5-17	12-15-18	0.80-0.90	4.00-14.00	0.10-0.20	0.0-2.9	5.0-10	.10
	17-42	18-22-25	0.80-0.90	4.00-14.00	0.05-0.20	0.0-2.9	1.0-3.0	.10
	42-62	18-22-25	0.85-1.10	4.00-14.00	0.05-0.10	0.0-2.9	0.0-1.0	.05
158D:								
Sevencedars, till								
substratum----------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-6	10-18-27	0.75-0.85	4.00-14.00	0.25-0.30	0.0-2.9	5.0-10	.15
	6-13	10-21-27	0.75-0.85	4.00-14.00	0.15-0.20	0.0-2.9	5.0-10	.10
	13-28	10-25-27	0.75-0.85	4.00-14.00	0.04-0.20	0.0-2.9	3.0-7.0	.15
	28-53	10-20-27	0.80-0.90	4.00-14.00	0.04-0.20	0.0-2.9	0.0-2.0	.20
	53-68	10-15-27	0.95-1.10	4.00-14.00	0.04-0.20	0.0-2.9	0.0-1.0	.10

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion Kw
	In	Pct	g/cc	um/sec	In/in	Pct	Pct	
158E:								
Sevencedars, till substratum	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-6	10-18-27	0.75-0.85	4.00-14.00	0.25-0.30	0.0-2.9	5.0-10	.15
	6-13	10-21-27	0.75-0.85	4.00-14.00	0.15-0.20	0.0-2.9	5.0-10	.10
	13-28	10-25-27	0.75-0.85	4.00-14.00	0.04-0.20	0.0-2.9	3.0-7.0	.15
	28-53	10-20-27	0.80-0.90	4.00-14.00	0.04-0.20	0.0-2.9	0.0-2.0	.20
	53-68	10-15-27	0.95-1.10	4.00-14.00	0.04-0.20	0.0-2.9	0.0-1.0	.10
158F:								
Sevencedars, till substratum	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-6	10-18-27	0.75-0.85	4.00-14.00	0.25-0.30	0.0-2.9	5.0-10	.15
	6-13	10-21-27	0.75-0.85	4.00-14.00	0.15-0.20	0.0-2.9	5.0-10	.10
	13-28	10-25-27	0.75-0.85	4.00-14.00	0.04-0.20	0.0-2.9	3.0-7.0	.15
	28-53	10-20-27	0.80-0.90	4.00-14.00	0.04-0.20	0.0-2.9	0.0-2.0	.20
	53-68	10-15-27	0.95-1.10	4.00-14.00	0.04-0.20	0.0-2.9	0.0-1.0	.10
159D:								
Sevencedars, clayey	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-6	25-25-27	0.80-0.90	4.00-14.00	0.15-0.20	0.0-2.9	10-12	.10
	6-13	25-25-27	0.80-0.90	4.00-14.00	0.15-0.20	0.0-2.9	7.0-10	.10
	13-28	28-28-30	0.85-0.90	4.00-14.00	0.15-0.20	0.0-2.9	3.0-5.0	.10
	28-53	28-30-30	0.85-0.90	1.40-4.00	0.05-0.15	0.0-2.9	0.0-2.0	.10
	53-68	28-35-40	0.95-1.20	1.40-4.00	0.05-0.15	0.0-2.9	0.0-1.0	.10
161D:								
Sevencedars	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-6	10-18-27	0.75-0.85	4.00-14.00	0.25-0.30	0.0-2.9	5.0-10	.20
	6-13	10-21-27	0.75-0.85	4.00-14.00	0.15-0.20	0.0-2.9	5.0-10	.15
	13-28	10-25-27	0.75-0.85	4.00-14.00	0.04-0.20	0.0-2.9	3.0-7.0	.15
	28-53	10-20-27	0.80-0.90	4.00-14.00	0.04-0.20	0.0-2.9	0.0-2.0	.20
	53-68	10-15-27	0.95-1.10	4.00-14.00	0.04-0.20	0.0-2.9	0.0-1.0	.10
Newanna	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-11	10-23-25	0.75-0.90	4.00-14.00	0.15-0.20	0.0-2.9	5.0-8.0	.15
	11-32	10-25-25	0.70-0.85	4.00-14.00	0.09-0.11	0.0-2.9	3.0-5.0	.10
	32-38	10-22-25	0.70-0.85	4.00-14.00	0.09-0.11	0.0-2.9	0.5-1.0	.15
	38-42	---	---	---	---	---	---	---

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion Kw
	In	*Pct*	*g/cc*	*um/sec*	*In/in*	*Pct*	*Pct*	
161D:								
Woodspoint-----------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-7	10-20-27	0.75-0.85	4.00-14.00	0.35-0.45	0.0-2.9	5.0-10	.28
	7-19	10-22-27	0.75-0.85	4.00-14.00	0.35-0.45	0.0-2.9	5.0-10	.37
	19-29	10-24-27	0.75-0.85	4.00-14.00	0.16-0.30	0.0-2.9	3.0-7.0	.37
	29-38	10-20-27	0.80-0.90	4.00-14.00	0.16-0.30	0.0-2.9	0.0-2.0	.28
	38-49	10-17-27	0.80-0.90	4.00-14.00	0.16-0.30	0.0-2.9	0.0-1.0	.43
	49-53	---	---	---	---	---	---	---
161E:								
Sevencedars----------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-6	10-18-27	0.75-0.85	4.00-14.00	0.25-0.30	0.0-2.9	5.0-10	.20
	6-13	10-21-27	0.75-0.85	4.00-14.00	0.15-0.20	0.0-2.9	5.0-10	.15
	13-28	10-25-27	0.75-0.85	4.00-14.00	0.04-0.20	0.0-2.9	3.0-7.0	.15
	28-53	10-20-27	0.80-0.90	4.00-14.00	0.04-0.20	0.0-2.9	0.0-2.0	.20
	53-68	10-15-27	0.95-1.10	4.00-14.00	0.04-0.20	0.0-2.9	0.0-1.0	.10
Newanna--------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-11	10-23-25	0.75-0.90	4.00-14.00	0.15-0.20	0.0-2.9	5.0-8.0	.15
	11-32	10-25-25	0.70-0.85	4.00-14.00	0.09-0.11	0.0-2.9	3.0-5.0	.10
	32-38	10-22-25	0.70-0.85	4.00-14.00	0.09-0.11	0.0-2.9	0.5-1.0	.15
	38-42	---	---	---	---	---	---	---
Woodspoint-----------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-7	10-20-27	0.75-0.85	4.00-14.00	0.35-0.45	0.0-2.9	5.0-10	.28
	7-19	10-22-27	0.75-0.85	4.00-14.00	0.35-0.45	0.0-2.9	5.0-10	.37
	19-29	10-24-27	0.75-0.85	4.00-14.00	0.16-0.30	0.0-2.9	3.0-7.0	.37
	29-38	10-20-27	0.80-0.90	4.00-14.00	0.16-0.30	0.0-2.9	0.0-2.0	.28
	38-49	10-17-27	0.80-0.90	4.00-14.00	0.16-0.30	0.0-2.9	0.0-1.0	.43
	49-53	---	---	---	---	---	---	---
161F:								
Newanna--------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-11	10-23-25	0.75-0.90	4.00-14.00	0.15-0.20	0.0-2.9	5.0-8.0	.15
	11-32	10-25-25	0.70-0.85	4.00-14.00	0.09-0.11	0.0-2.9	3.0-5.0	.10
	32-38	10-22-25	0.70-0.85	4.00-14.00	0.09-0.11	0.0-2.9	0.5-1.0	.15
	38-42	---	---	---	---	---	---	---
Sevencedars----------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-6	10-18-27	0.75-0.85	4.00-14.00	0.25-0.30	0.0-2.9	5.0-10	.20
	6-13	10-21-27	0.75-0.85	4.00-14.00	0.15-0.20	0.0-2.9	5.0-10	.15
	13-28	10-25-27	0.75-0.85	4.00-14.00	0.04-0.20	0.0-2.9	3.0-7.0	.15
	28-53	10-20-27	0.80-0.90	4.00-14.00	0.04-0.20	0.0-2.9	0.0-2.0	.20
	53-68	10-15-27	0.95-1.10	4.00-14.00	0.04-0.20	0.0-2.9	0.0-1.0	.10
Rock outcrop---------	0-60	---	---	---	---	---	---	---

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion Kw
	In	*Pct*	*g/cc*	*um/sec*	*In/in*	*Pct*	*Pct*	
162D:								
Mosscreek------------	0-2	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	2-15	15-22-25	0.75-0.85	4.00-14.00	0.35-0.45	0.0-2.9	12-20	.37
	15-27	15-25-25	0.75-0.85	4.00-14.00	0.35-0.45	0.0-2.9	9.0-12	.24
	27-57	20-25-30	0.75-0.90	4.00-14.00	0.20-0.30	0.0-2.9	1.0-4.0	.37
	57-65	20-25-30	0.75-0.90	4.00-14.00	0.11-0.25	0.0-2.9	0.0-2.0	.20
Fawceter-------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-11	15-20-20	0.75-0.85	4.00-14.00	0.25-0.30	0.0-2.9	12-20	.15
	11-29	18-23-25	0.75-0.85	4.00-14.00	0.15-0.20	0.0-2.9	9.0-12	.15
	29-41	18-22-27	0.75-0.90	4.00-14.00	0.05-0.18	0.0-2.9	2.0-7.0	.10
	41-57	18-20-27	0.75-0.90	4.00-14.00	0.05-0.18	0.0-2.9	0.0-2.0	.10
	57-61	---	---	---	---	---	---	---
162E:								
Mosscreek------------	0-2	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	2-15	15-22-25	0.75-0.85	4.00-14.00	0.35-0.45	0.0-2.9	12-20	.37
	15-27	15-25-25	0.75-0.85	4.00-14.00	0.35-0.45	0.0-2.9	9.0-12	.24
	27-57	20-25-30	0.75-0.90	4.00-14.00	0.20-0.30	0.0-2.9	1.0-4.0	.37
	57-65	20-25-30	0.75-0.90	4.00-14.00	0.11-0.25	0.0-2.9	0.0-2.0	.20
Fawceter-------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-11	15-20-20	0.75-0.85	4.00-14.00	0.25-0.30	0.0-2.9	12-20	.15
	11-29	18-23-25	0.75-0.85	4.00-14.00	0.15-0.20	0.0-2.9	9.0-12	.15
	29-41	18-22-27	0.75-0.90	4.00-14.00	0.05-0.18	0.0-2.9	2.0-7.0	.10
	41-57	18-20-27	0.75-0.90	4.00-14.00	0.05-0.18	0.0-2.9	0.0-2.0	.10
	57-61	---	---	---	---	---	---	---
163F:								
Fawceter-------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-11	15-20-20	0.75-0.85	4.00-14.00	0.25-0.30	0.0-2.9	12-20	.15
	11-29	18-23-25	0.75-0.85	4.00-14.00	0.15-0.20	0.0-2.9	9.0-12	.15
	29-41	18-22-27	0.75-0.90	4.00-14.00	0.05-0.18	0.0-2.9	2.0-7.0	.10
	41-57	18-20-27	0.75-0.90	4.00-14.00	0.05-0.18	0.0-2.9	0.0-2.0	.10
	57-61	---	---	---	---	---	---	---
Killam---------------	0-2	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	2-14	15-15-20	0.75-0.85	14.00-42.00	0.15-0.20	0.0-2.9	12-20	.05
	14-23	15-18-22	0.75-0.85	14.00-42.00	0.15-0.20	0.0-2.9	9.0-12	.05
	23-31	15-20-25	0.75-0.85	14.00-42.00	0.05-0.10	0.0-2.9	1.0-7.0	.10
	31-35	---	---	---	---	---	---	---

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion Kw
	In	*Pct*	*g/cc*	*um/sec*	*In/in*	*Pct*	*Pct*	
163F:								
Mosscreek------------	0-2	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	2-15	15-22-25	0.75-0.85	4.00-14.00	0.35-0.45	0.0-2.9	12-20	.37
	15-27	15-25-25	0.75-0.85	4.00-14.00	0.35-0.45	0.0-2.9	9.0-12	.24
	27-57	20-25-30	0.75-0.90	4.00-14.00	0.20-0.30	0.0-2.9	1.0-4.0	.37
	57-65	20-25-30	0.75-0.90	4.00-14.00	0.11-0.25	0.0-2.9	0.0-2.0	.20
164F:								
Killam---------------	0-2	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	2-14	15-15-20	0.75-0.85	14.00-42.00	0.15-0.20	0.0-2.9	12-20	.05
	14-23	15-18-22	0.75-0.85	14.00-42.00	0.15-0.20	0.0-2.9	9.0-12	.05
	23-31	15-20-25	0.75-0.85	14.00-42.00	0.05-0.10	0.0-2.9	1.0-7.0	.10
	31-35	---	---	---	---	---	---	---
Fawceter-------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-11	15-20-20	0.75-0.85	4.00-14.00	0.25-0.30	0.0-2.9	12-20	.15
	11-29	18-23-25	0.75-0.85	4.00-14.00	0.15-0.20	0.0-2.9	9.0-12	.15
	29-41	18-22-27	0.75-0.90	4.00-14.00	0.05-0.18	0.0-2.9	2.0-7.0	.10
	41-57	18-20-27	0.75-0.90	4.00-14.00	0.05-0.18	0.0-2.9	0.0-2.0	.10
	57-61	---	---	---	---	---	---	---
Rock outcrop---------	0-60	---	---	---	---	---	---	---
166F:								
Rock outcrop---------	0-60	---	---	---	---	---	---	---
Killam---------------	0-2	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	2-14	15-15-20	0.75-0.85	14.00-42.00	0.15-0.20	0.0-2.9	12-20	.05
	14-23	15-18-22	0.75-0.85	14.00-42.00	0.15-0.20	0.0-2.9	9.0-12	.05
	23-31	15-20-25	0.75-0.85	14.00-42.00	0.05-0.10	0.0-2.9	1.0-7.0	.10
	31-35	---	---	---	---	---	---	---
170A:								
Logsden--------------	0-8	18-25-25	0.95-1.10	4.00-14.00	0.19-0.21	0.0-2.9	5.0-10	.37
	8-17	18-25-25	1.00-1.20	4.00-14.00	0.19-0.21	0.0-2.9	2.0-5.0	.37
	17-37	20-28-35	1.10-1.30	1.40-14.00	0.19-0.21	0.0-5.9	1.0-3.0	.37
	37-60	20-30-35	1.10-1.30	1.40-14.00	0.19-0.21	0.0-5.9	0.5-2.0	.37
170B:								
Logsden--------------	0-8	18-25-25	0.95-1.10	4.00-14.00	0.19-0.21	0.0-2.9	5.0-10	.37
	8-17	18-25-25	1.00-1.20	4.00-14.00	0.19-0.21	0.0-2.9	2.0-5.0	.37
	17-37	20-28-35	1.10-1.30	1.40-14.00	0.19-0.21	0.0-5.9	1.0-3.0	.37
	37-60	20-30-35	1.10-1.30	1.40-14.00	0.19-0.21	0.0-5.9	0.5-2.0	.37

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion Kw
	In	*Pct*	*g/cc*	*um/sec*	*In/in*	*Pct*	*Pct*	
170B:								
Nehalem, occasional flooding------------	0-9	18-25-25	1.00-1.20	4.00-14.00	0.19-0.21	0.0-2.9	5.0-10	.37
	9-16	18-22-25	1.00-1.20	4.00-14.00	0.19-0.21	0.0-2.9	2.0-5.0	.37
	16-48	18-22-30	1.00-1.35	1.40-14.00	0.19-0.21	0.0-2.9	1.0-5.0	.43
	48-60	12-25-30	1.00-1.40	1.40-42.00	0.13-0.21	0.0-2.9	0.5-3.0	.43
173B:								
Tillamook------------	0-8	18-18-25	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	15-25	.37
	8-20	18-18-25	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	7.0-12	.32
	20-25	18-20-30	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	3.0-7.0	.43
	25-35	27-28-35	1.10-1.25	1.40-4.00	0.17-0.21	3.0-5.9	1.0-3.0	.43
	35-52	27-30-35	1.10-1.25	1.40-4.00	0.17-0.21	3.0-5.9	1.0-2.0	.43
	52-60	27-34-35	1.10-1.25	1.40-4.00	0.17-0.21	3.0-5.9	0.5-1.0	.37
Ginger---------------	0-8	18-25-25	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	10-17	.32
	8-17	18-25-25	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	7.0-12	.32
	17-20	30-32-35	1.10-1.25	1.40-4.00	0.17-0.21	3.0-5.9	2.0-5.0	.37
	20-28	35-42-50	1.20-1.35	0.42-1.40	0.13-0.17	5.9-8.9	1.0-3.0	.32
	28-38	35-45-50	1.20-1.35	0.42-1.40	0.13-0.17	5.9-8.9	1.0-2.0	.28
	38-52	35-42-50	1.20-1.35	0.42-1.40	0.13-0.17	5.9-8.9	0.5-1.0	.32
	52-60	3-10-15	1.25-1.50	14.00-141.00	0.02-0.13	0.0-2.9	0.5-1.0	.02
173C:								
Tillamook------------	0-8	18-18-25	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	15-25	.37
	8-20	18-18-25	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	7.0-12	.32
	20-25	18-20-30	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	3.0-7.0	.43
	25-35	27-28-35	1.10-1.25	1.40-4.00	0.17-0.21	3.0-5.9	1.0-3.0	.43
	35-52	27-30-35	1.10-1.25	1.40-4.00	0.17-0.21	3.0-5.9	1.0-2.0	.43
	52-60	27-34-35	1.10-1.25	1.40-4.00	0.17-0.21	3.0-5.9	0.5-1.0	.37
Ginger---------------	0-8	18-25-25	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	10-17	.32
	8-17	18-25-25	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	7.0-12	.32
	17-20	30-32-35	1.10-1.25	1.40-4.00	0.17-0.21	3.0-5.9	2.0-5.0	.37
	20-28	35-42-50	1.20-1.35	0.42-1.40	0.13-0.17	5.9-8.9	1.0-3.0	.32
	28-38	35-45-50	1.20-1.35	0.42-1.40	0.13-0.17	5.9-8.9	1.0-2.0	.28
	38-52	35-42-50	1.20-1.35	0.42-1.40	0.13-0.17	5.9-8.9	0.5-1.0	.32
	52-60	3-10-15	1.25-1.50	14.00-141.00	0.02-0.13	0.0-2.9	0.5-1.0	.02

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion Kw
	In	Pct	g/cc	um/sec	In/in	Pct	Pct	
174C:								
Typic Fulvudands, terraces------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-8	15-18-25	0.80-0.90	4.00-14.00	0.35-0.45	0.0-2.9	10-15	.28
	8-21	15-18-25	0.80-0.90	4.00-14.00	0.35-0.45	0.0-2.9	7.0-10	.37
	21-35	15-20-30	0.80-0.90	4.00-14.00	0.25-0.30	0.0-2.9	2.0-5.0	.43
	35-45	15-20-30	0.80-0.90	4.00-14.00	0.10-0.30	0.0-2.9	1.0-2.0	.15
	45-53	5-20-25	0.80-1.40	4.00-141.00	0.01-0.10	0.0-2.9	0.5-1.0	.05
	53-61	3-15-15	0.80-1.45	4.00-141.00	0.01-0.10	0.0-2.9	0.5-1.0	.02
Typic Fulvudands, fans----------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-14	15-25-25	0.80-0.90	4.00-14.00	0.25-0.30	0.0-2.9	7.0-15	.17
	14-34	15-25-30	0.80-0.90	4.00-14.00	0.05-0.20	0.0-2.9	3.0-7.0	.10
	34-48	15-25-30	0.80-0.90	4.00-14.00	0.05-0.20	0.0-2.9	1.0-3.0	.15
	48-61	15-27-30	0.80-0.90	4.00-14.00	0.05-0.20	0.0-2.9	0.5-1.0	.20
175D:								
Astoria--------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-8	20-25-27	0.85-1.00	4.00-14.00	0.35-0.45	0.0-2.9	6.0-12	.37
	8-12	20-28-35	0.90-1.00	1.40-14.00	0.21-0.35	0.0-5.9	4.0-8.0	.37
	12-25	35-35-50	1.10-1.20	1.40-4.00	0.14-0.21	3.0-5.9	1.0-3.0	.37
	25-37	35-38-50	1.10-1.20	1.40-4.00	0.14-0.21	3.0-5.9	0.5-2.0	.32
	37-51	30-35-40	1.10-1.20	1.40-4.00	0.17-0.21	3.0-5.9	0.5-1.0	.37
	51-61	---	---	---	---	---	---	---
176D:								
Preacher-------------	0-2	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	2-13	15-25-25	0.85-1.00	4.00-14.00	0.25-0.35	0.0-2.9	4.0-8.0	.28
	13-21	20-28-35	1.00-1.30	4.00-14.00	0.14-0.21	0.0-5.9	2.0-3.0	.28
	21-38	20-32-35	1.10-1.30	4.00-14.00	0.12-0.21	0.0-5.9	0.5-1.0	.28
	38-52	18-30-35	1.10-1.30	4.00-14.00	0.10-0.21	0.0-5.9	0.5-1.0	.37
	52-62	---	---	---	---	---	---	---
Bohannon-------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-13	15-25-25	0.85-1.00	4.00-14.00	0.25-0.35	0.0-2.9	4.0-8.0	.28
	13-26	20-28-35	1.00-1.30	4.00-14.00	0.14-0.21	0.0-5.9	1.0-3.0	.28
	26-38	20-30-35	1.00-1.30	4.00-14.00	0.10-0.21	0.0-5.9	0.5-1.0	.37
	38-48	---	---	---	---	---	---	---
176E:								
Preacher-------------	0-2	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	2-13	15-25-25	0.85-1.00	4.00-14.00	0.25-0.35	0.0-2.9	4.0-8.0	.28
	13-21	20-28-35	1.00-1.30	4.00-14.00	0.14-0.21	0.0-5.9	2.0-3.0	.28
	21-38	20-32-35	1.10-1.30	4.00-14.00	0.12-0.21	0.0-5.9	0.5-1.0	.28
	38-52	18-30-35	1.10-1.30	4.00-14.00	0.10-0.21	0.0-5.9	0.5-1.0	.37
	52-62	---	---	---	---	---	---	---

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion Kw
	In	*Pct*	*g/cc*	*um/sec*	*In/in*	*Pct*	*Pct*	
176E:								
Bohannon-------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-13	15-25-25	0.85-1.00	4.00-14.00	0.25-0.35	0.0-2.9	4.0-8.0	.28
	13-26	20-28-35	1.00-1.30	4.00-14.00	0.14-0.21	0.0-5.9	1.0-3.0	.28
	26-38	20-30-35	1.00-1.30	4.00-14.00	0.10-0.21	0.0-5.9	0.5-1.0	.37
	38-48	---	---	---	---	---	---	---
177B:								
Dystrudepts----------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-6	27-28-35	1.20-1.35	1.40-4.00	0.19-0.21	3.0-5.9	5.0-10	.37
	6-22	27-32-35	1.20-1.35	1.40-4.00	0.19-0.21	3.0-5.9	2.0-5.0	.32
	22-31	27-38-45	1.20-1.35	0.42-4.00	0.14-0.21	3.0-5.9	1.0-3.0	.32
	31-39	27-50-55	1.20-1.35	0.42-4.00	0.14-0.21	3.0-8.9	1.0-3.0	.20
	39-49	27-55-55	1.20-1.35	0.42-4.00	0.14-0.21	3.0-8.9	0.5-2.0	.20
	49-61	27-35-40	1.20-1.35	1.40-4.00	0.19-0.21	3.0-5.9	0.5-2.0	.37
Aquepts--------------	0-6	18-25-27	1.00-1.20	4.00-14.00	0.19-0.21	0.0-2.9	5.0-10	.37
	6-18	27-38-45	1.20-1.35	1.40-4.00	0.15-0.21	3.0-5.9	2.0-5.0	.24
	18-31	27-42-45	1.20-1.35	1.40-4.00	0.15-0.21	3.0-5.9	1.0-3.0	.28
	31-51	27-28-45	1.20-1.35	1.40-4.00	0.15-0.21	3.0-5.9	1.0-3.0	.43
	51-60	10-28-45	1.20-1.40	1.40-42.00	0.13-0.21	0.0-5.9	0.5-3.0	.32
178B:								
Fluventic Humic Dystrudepts---------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-11	15-22-25	1.00-1.20	4.00-14.00	0.16-0.21	0.0-2.9	5.0-10	.32
	11-35	15-22-27	1.00-1.25	4.00-14.00	0.11-0.21	0.0-2.9	2.0-3.0	.37
	35-40	15-25-27	1.10-1.30	4.00-42.00	0.11-0.18	0.0-2.9	1.0-2.0	.32
	40-61	5-15-25	1.10-1.35	4.00-42.00	0.03-0.18	0.0-2.9	0.5-2.0	.10
Dystrudepts----------	0-12	15-20-27	0.90-1.10	4.00-14.00	0.17-0.35	0.0-2.9	5.0-10	.32
	12-35	15-22-40	1.00-1.30	1.40-14.00	0.14-0.21	0.0-5.9	1.0-3.0	.37
	35-45	15-18-40	1.10-1.30	1.40-14.00	0.07-0.21	0.0-5.9	0.5-2.0	.37
	45-63	10-15-40	1.15-1.45	1.40-141.00	0.01-0.21	0.0-5.9	0.5-1.0	.24
Aquepts--------------	0-8	18-25-27	1.00-1.10	4.00-14.00	0.17-0.21	0.0-2.9	5.0-10	.37
	8-20	18-28-35	1.10-1.30	1.40-14.00	0.14-0.21	0.0-5.9	1.0-3.0	.43
	20-60	5-28-35	1.20-1.45	1.40-141.00	0.01-0.21	0.0-5.9	0.5-3.0	.49
180D:								
Salander-------------	0-2	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	2-14	18-20-25	0.75-0.95	4.00-14.00	0.35-0.45	0.0-2.9	10-15	.28
	14-25	18-22-25	0.75-0.95	4.00-14.00	0.35-0.45	0.0-2.9	7.0-10	.37
	25-41	20-25-27	0.75-0.95	4.00-14.00	0.25-0.30	0.0-2.9	1.0-3.0	.43
	41-52	20-25-30	0.75-0.95	1.40-14.00	0.25-0.30	3.0-5.9	0.5-1.0	.43
	52-66	20-28-30	0.75-0.95	1.40-14.00	0.25-0.30	3.0-5.9	0.5-1.0	.43

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion Kw
	In	Pct	g/cc	um/sec	In/in	Pct	Pct	
180E:								
Salander-------------	0-2	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	2-14	18-20-25	0.75-0.95	4.00-14.00	0.35-0.45	0.0-2.9	10-15	.28
	14-25	18-22-25	0.75-0.95	4.00-14.00	0.35-0.45	0.0-2.9	7.0-10	.37
	25-41	20-25-27	0.75-0.95	4.00-14.00	0.25-0.30	0.0-2.9	1.0-3.0	.43
	41-52	20-25-30	0.75-0.95	1.40-14.00	0.25-0.30	3.0-5.9	0.5-1.0	.43
	52-66	20-28-30	0.75-0.95	1.40-14.00	0.25-0.30	3.0-5.9	0.5-1.0	.43
Necanicum------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-10	15-20-25	0.75-0.85	4.00-14.00	0.15-0.20	0.0-2.9	10-15	.10
	10-18	15-22-25	0.75-0.85	4.00-14.00	0.15-0.20	0.0-2.9	7.0-10	.10
	18-27	18-25-27	0.75-0.90	4.00-14.00	0.05-0.15	0.0-2.9	2.0-7.0	.10
	27-49	18-25-27	0.75-0.90	4.00-14.00	0.05-0.15	0.0-2.9	2.0-5.0	.05
	49-71	18-25-27	0.75-0.90	4.00-14.00	0.05-0.15	0.0-2.9	0.0-2.0	.05
180F:								
Salander-------------	0-2	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	2-14	18-20-25	0.75-0.95	4.00-14.00	0.35-0.45	0.0-2.9	10-15	.28
	14-25	18-22-25	0.75-0.95	4.00-14.00	0.35-0.45	0.0-2.9	7.0-10	.37
	25-41	20-25-27	0.75-0.95	4.00-14.00	0.25-0.30	0.0-2.9	1.0-3.0	.43
	41-52	20-25-30	0.75-0.95	1.40-14.00	0.25-0.30	3.0-5.9	0.5-1.0	.43
	52-66	20-28-30	0.75-0.95	1.40-14.00	0.25-0.30	3.0-5.9	0.5-1.0	.43
Necanicum------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-10	15-20-25	0.75-0.85	4.00-14.00	0.15-0.20	0.0-2.9	10-15	.10
	10-18	15-22-25	0.75-0.85	4.00-14.00	0.15-0.20	0.0-2.9	7.0-10	.10
	18-27	18-25-27	0.75-0.90	4.00-14.00	0.05-0.15	0.0-2.9	2.0-7.0	.10
	27-49	18-25-27	0.75-0.90	4.00-14.00	0.05-0.15	0.0-2.9	2.0-5.0	.05
	49-71	18-25-27	0.75-0.90	4.00-14.00	0.05-0.15	0.0-2.9	0.0-2.0	.05
Neskowin-------------	0-2	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	2-8	18-20-25	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	10-15	.37
	8-15	18-25-30	0.75-0.90	1.40-14.00	0.25-0.30	3.0-5.9	7.0-10	.32
	15-28	18-20-30	0.75-0.90	1.40-14.00	0.15-0.20	3.0-5.9	5.0-8.0	.24
	28-32	---	---	---	---	---	---	---
181E:								
Neskowin-------------	0-2	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	2-8	18-20-25	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	10-15	.37
	8-15	18-25-30	0.75-0.90	1.40-14.00	0.25-0.30	3.0-5.9	7.0-10	.32
	15-28	18-20-30	0.75-0.90	1.40-14.00	0.15-0.20	3.0-5.9	5.0-8.0	.24
	28-32	---	---	---	---	---	---	---

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion
								Kw
	In	Pct	g/cc	um/sec	In/in	Pct	Pct	
181E:								
Salander-------------	0-2	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	2-14	18-20-25	0.75-0.95	4.00-14.00	0.35-0.45	0.0-2.9	10-15	.28
	14-25	18-22-25	0.75-0.95	4.00-14.00	0.35-0.45	0.0-2.9	7.0-10	.37
	25-41	20-25-27	0.75-0.95	4.00-14.00	0.25-0.30	0.0-2.9	1.0-3.0	.43
	41-52	20-25-30	0.75-0.95	1.40-14.00	0.25-0.30	3.0-5.9	0.5-1.0	.43
	52-66	20-28-30	0.75-0.95	1.40-14.00	0.25-0.30	3.0-5.9	0.5-1.0	.43
181F:								
Neskowin-------------	0-2	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	2-8	18-20-25	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	10-15	.37
	8-15	18-25-30	0.75-0.90	1.40-14.00	0.25-0.30	3.0-5.9	7.0-10	.32
	15-28	18-20-30	0.75-0.90	1.40-14.00	0.15-0.20	3.0-5.9	5.0-8.0	.24
	28-32	---	---	---	---	---	---	---
Rock outcrop---------	0-60	---	---	---	---	---	---	---
Necanicum------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-10	15-20-25	0.75-0.85	4.00-14.00	0.15-0.20	0.0-2.9	10-15	.10
	10-18	15-22-25	0.75-0.85	4.00-14.00	0.15-0.20	0.0-2.9	7.0-10	.10
	18-27	18-25-27	0.75-0.90	4.00-14.00	0.05-0.15	0.0-2.9	2.0-7.0	.10
	27-49	18-25-27	0.75-0.90	4.00-14.00	0.05-0.15	0.0-2.9	2.0-5.0	.05
	49-71	18-25-27	0.75-0.90	4.00-14.00	0.05-0.15	0.0-2.9	0.0-2.0	.05
182D:								
Neotsu---------------	0-3	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	3-9	15-18-20	0.75-0.85	4.00-14.00	0.35-0.45	0.0-2.9	10-15	.37
	9-20	15-18-20	0.75-0.85	4.00-14.00	0.35-0.45	0.0-2.9	7.0-10	.37
	20-32	18-18-30	0.85-0.90	4.00-14.00	0.15-0.20	0.0-2.9	1.0-5.0	.32
	32-42	---	---	---	---	---	---	---
Salander-------------	0-2	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	2-14	18-20-25	0.75-0.95	4.00-14.00	0.35-0.45	0.0-2.9	10-15	.28
	14-25	18-22-25	0.75-0.95	4.00-14.00	0.35-0.45	0.0-2.9	7.0-10	.37
	25-41	20-25-27	0.75-0.95	4.00-14.00	0.25-0.30	0.0-2.9	1.0-3.0	.43
	41-52	20-25-30	0.75-0.95	1.40-14.00	0.25-0.30	3.0-5.9	0.5-1.0	.43
	52-66	20-28-30	0.75-0.95	1.40-14.00	0.25-0.30	3.0-5.9	0.5-1.0	.43
183D:								
Winema---------------	0-10	20-25-27	0.80-0.90	4.00-14.00	0.35-0.45	0.0-2.9	10-15	.24
	10-21	25-25-30	0.80-0.90	4.00-14.00	0.35-0.45	0.0-2.9	5.0-10	.28
	21-28	30-34-35	1.10-1.25	1.40-4.00	0.19-0.21	3.0-5.9	1.0-3.0	.37
	28-42	35-42-50	1.20-1.35	1.40-4.00	0.15-0.17	3.0-5.9	0.5-2.0	.28
	42-60	35-45-50	1.20-1.35	1.40-4.00	0.10-0.17	3.0-5.9	0.5-1.0	.28

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion Kw
	In	Pct	g/cc	um/sec	In/in	Pct	Pct	
183D:								
Fendall	0-8	20-25-27	0.85-1.00	4.00-14.00	0.25-0.35	0.0-2.9	10-15	.28
	8-13	20-26-27	0.90-1.00	4.00-14.00	0.25-0.35	0.0-2.9	5.0-10	.37
	13-17	30-32-40	1.10-1.20	1.40-4.00	0.17-0.21	3.0-5.9	1.0-2.0	.37
	17-27	35-38-50	1.20-1.30	1.40-4.00	0.11-0.21	3.0-5.9	0.5-1.0	.37
	27-34	35-38-50	1.20-1.30	1.40-4.00	0.11-0.21	3.0-5.9	0.5-1.0	.37
	34-44	---	---	---	---	---	---	---
185F:								
Udorthents, steep	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-90	---
	1-4	5-8-15	1.30-1.50	14.00-42.00	0.10-0.13	0.0-2.9	1.0-3.0	.17
	4-23	5-8-15	1.30-1.50	14.00-42.00	0.07-0.13	0.0-2.9	0.0-1.0	.37
	23-33	---	---	---	---	---	---	---
Rock outcrop	0-60	---	---	---	---	---	---	---
190D:								
Mulkey	0-10	10-13-20	0.70-0.85	14.00-42.00	0.25-0.45	1.0-2.9	10-15	.20
	10-19	10-15-20	0.70-0.85	14.00-42.00	0.25-0.45	1.0-2.9	8.0-14	.17
	19-26	10-18-20	0.75-0.90	14.00-42.00	0.25-0.35	1.0-2.9	1.0-6.0	.20
	26-30	---	---	---	---	---	---	---
191B:								
Siletz	0-9	20-22-25	0.80-0.90	4.00-14.00	0.35-0.45	0.0-2.9	10-17	.37
	9-19	20-25-25	0.80-0.90	4.00-14.00	0.35-0.45	0.0-2.9	7.0-10	.28
	19-32	10-28-35	1.05-1.30	1.40-42.00	0.17-0.21	0.0-5.9	2.0-5.0	.37
	32-41	10-28-35	1.05-1.30	1.40-42.00	0.17-0.21	0.0-5.9	1.0-3.0	.32
	41-52	10-15-15	1.25-1.40	14.00-42.00	0.09-0.15	0.0-2.9	0.5-2.0	.28
	52-60	5-5-10	1.25-1.40	14.00-141.00	0.01-0.03	0.0-2.9	0.0-1.0	.02
Euchre	0-8	12-22-25	0.80-0.90	4.00-14.00	0.30-0.45	0.0-2.9	7.0-17	.32
	8-14	12-22-25	0.80-0.90	4.00-14.00	0.30-0.45	0.0-2.9	5.0-12	.37
	14-24	27-30-35	1.15-1.30	1.40-4.00	0.16-0.21	3.0-5.9	2.0-5.0	.37
	24-39	27-32-35	1.15-1.30	1.40-4.00	0.16-0.21	3.0-5.9	1.0-3.0	.37
	39-55	10-15-35	1.15-1.40	1.40-14.00	0.14-0.18	0.0-5.9	0.5-1.0	.43
	55-60	3-10-10	1.30-1.50	14.00-42.00	0.04-0.13	0.0-2.9	0.5-1.0	.05
192A:								
Yachats, occasional flooding	0-9	5-15-18	1.25-1.35	4.00-14.00	0.15-0.17	0.0-2.9	5.0-10	.32
	9-19	5-18-18	1.00-1.40	4.00-42.00	0.13-0.21	0.0-2.9	1.0-5.0	.32
	19-39	5-5-15	1.25-1.50	4.00-141.00	0.09-0.17	0.0-2.9	0.5-3.0	.32
	39-54	5-8-15	1.25-1.50	4.00-141.00	0.09-0.17	0.0-2.9	0.5-3.0	.28
	54-60	5-15-15	1.25-1.50	4.00-141.00	0.09-0.17	0.0-2.9	0.5-3.0	.37

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion Kw
	In	Pct	g/cc	um/sec	In/in	Pct	Pct	
303F:								
Ascar----------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-9	10-15-20	0.75-0.85	14.00-42.00	0.10-0.15	0.0-2.9	10-15	.05
	9-25	15-20-20	0.75-0.85	14.00-42.00	0.10-0.15	0.0-2.9	7.0-10	.05
	25-39	18-20-27	0.75-0.85	14.00-42.00	0.05-0.15	0.0-2.9	2.0-7.0	.05
	39-43	---	---	---	---	---	---	---
Rock outcrop---------	0-60	---	---	---	---	---	---	---
307F:								
Braun----------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-4	14-16-18	1.00-1.20	4.00-14.00	0.19-0.21	0.0-2.9	2.0-4.0	.32
	4-10	18-22-25	1.10-1.30	4.00-14.00	0.15-0.17	0.0-2.9	2.0-3.0	.28
	10-21	18-22-25	1.10-1.30	4.00-14.00	0.15-0.17	0.0-2.9	1.0-2.0	.43
	21-30	18-22-25	1.10-1.30	4.00-14.00	0.12-0.13	0.0-2.9	1.0-2.0	.49
	30-36	18-22-25	1.10-1.30	4.00-14.00	0.12-0.13	0.0-2.9	0.5-1.0	.49
	36-46	---	---	---	---	---	---	---
Scaponia-------------	0-2	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	2-9	12-15-18	1.00-1.20	4.00-14.00	0.17-0.19	0.0-2.9	2.0-4.0	.37
	9-15	18-23-27	1.10-1.30	4.00-14.00	0.14-0.15	0.0-2.9	0.5-2.0	.43
	15-26	18-23-27	1.10-1.30	4.00-14.00	0.14-0.15	0.0-2.9	0.5-2.0	.43
	26-45	18-23-27	1.10-1.30	4.00-14.00	0.14-0.15	0.0-2.9	0.5-2.0	.49
	45-55	---	---	---	---	---	---	---
309D:								
Caterl---------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-6	12-15-20	0.70-0.85	4.00-14.00	0.20-0.25	0.0-2.9	10-12	.15
	6-12	12-18-20	0.70-0.85	4.00-14.00	0.15-0.20	0.0-2.9	7.0-10	.10
	12-18	12-20-20	0.70-0.85	4.00-14.00	0.15-0.20	0.0-2.9	5.0-10	.10
	18-35	18-22-30	0.75-0.85	4.00-14.00	0.10-0.16	0.0-2.9	1.0-3.0	.10
	35-53	12-24-27	0.75-0.85	4.00-14.00	0.05-0.10	0.0-2.9	0.0-1.0	.05
	53-57	---	---	---	---	---	---	---
Laderly--------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-13	12-18-20	0.75-0.85	14.00-42.00	0.15-0.20	0.0-2.9	7.0-12	.10
	13-22	15-20-27	0.75-0.85	14.00-42.00	0.05-0.10	0.0-2.9	5.0-10	.10
	22-30	15-20-27	0.75-0.85	14.00-42.00	0.05-0.10	0.0-2.9	0.0-3.0	.05
	30-34	---	---	---	---	---	---	---

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion Kw
	In	Pct	g/cc	um/sec	In/in	Pct	Pct	
309E:								
Caterl	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-6	12-15-20	0.70-0.85	4.00-14.00	0.20-0.25	0.0-2.9	10-12	.15
	6-12	12-18-20	0.70-0.85	4.00-14.00	0.15-0.20	0.0-2.9	7.0-10	.10
	12-18	12-20-20	0.70-0.85	4.00-14.00	0.15-0.20	0.0-2.9	5.0-10	.10
	18-35	18-22-30	0.75-0.85	4.00-14.00	0.10-0.16	0.0-2.9	1.0-3.0	.10
	35-53	12-24-27	0.75-0.85	4.00-14.00	0.05-0.10	0.0-2.9	0.0-1.0	.05
	53-57	---	---	---	---	---	---	---
Laderly	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-13	12-18-20	0.75-0.85	14.00-42.00	0.15-0.20	0.0-2.9	7.0-12	.10
	13-22	15-20-27	0.75-0.85	14.00-42.00	0.05-0.10	0.0-2.9	5.0-10	.10
	22-30	15-20-27	0.75-0.85	14.00-42.00	0.05-0.10	0.0-2.9	0.0-3.0	.05
	30-34	---	---	---	---	---	---	---
314A:								
Croquib	0-2	15-20-25	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	10-15	.32
	2-6	15-20-25	0.75-0.90	4.00-14.00	0.35-0.45	0.0-2.9	10-15	.43
	6-13	27-30-35	0.75-0.90	1.40-4.00	0.35-0.45	3.0-5.9	6.0-10	.32
	13-24	27-30-35	0.75-0.90	1.40-4.00	0.35-0.45	3.0-5.9	5.0-7.0	.32
	24-34	27-30-35	0.75-0.90	1.40-4.00	0.35-0.45	3.0-5.9	5.0-7.0	.37
	34-60	15-20-25	1.30-1.50	0.01-0.42	0.04-0.07	0.0-2.9	1.0-3.0	.05
322F:								
Harslow	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-7	15-15-25	0.75-0.85	4.00-14.00	0.10-0.16	0.0-2.9	5.0-10	.05
	7-13	15-18-25	0.75-0.85	4.00-14.00	0.10-0.16	0.0-2.9	3.0-10	.05
	13-22	20-20-27	0.80-0.85	4.00-14.00	0.05-0.10	0.0-2.9	3.0-5.0	.05
	22-37	15-18-25	0.80-0.85	4.00-14.00	0.05-0.08	0.0-2.9	0.5-3.0	.05
	37-41	---	---	---	---	---	---	---
Kilchis	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-7	12-15-27	0.85-1.00	14.00-42.00	0.25-0.35	0.0-2.9	4.0-10	.10
	7-11	12-18-27	1.00-1.20	14.00-42.00	0.05-0.12	0.0-2.9	3.0-6.0	.10
	11-19	12-12-27	1.10-1.40	14.00-42.00	0.04-0.11	0.0-2.9	1.0-2.0	.05
	19-23	---	---	---	---	---	---	---
327:								
Dystrudepts, steep	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-11	15-20-27	0.90-1.10	4.00-14.00	0.17-0.35	0.0-2.9	5.0-10	.32
	11-21	15-22-40	1.00-1.30	1.40-14.00	0.14-0.21	0.0-5.9	1.0-3.0	.37
	21-29	15-18-40	1.10-1.30	1.40-14.00	0.07-0.21	0.0-5.9	0.5-2.0	.43
	29-36	10-15-40	1.15-1.45	1.40-141.00	0.01-0.21	0.0-5.9	0.5-1.0	.37
	36-46	---	---	---	---	---	---	---

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion Kw
	In	Pct	g/cc	um/sec	In/in	Pct	Pct	
328:								
Dystrudepts----------	0-12	15-20-27	0.90-1.10	4.00-14.00	0.17-0.35	0.0-2.9	5.0-10	.32
	12-35	15-22-40	1.00-1.30	1.40-14.00	0.14-0.21	0.0-5.9	1.0-3.0	.37
	35-45	15-18-40	1.10-1.30	1.40-14.00	0.07-0.21	0.0-5.9	0.5-2.0	.37
	45-63	10-15-40	1.15-1.45	1.40-141.00	0.01-0.21	0.0-5.9	0.5-1.0	.24
Humaquepts, isomesic	0-11	18-30-35	1.10-1.20	1.40-14.00	0.19-0.21	0.0-5.9	5.0-10	.32
	11-19	25-34-40	1.20-1.30	1.40-4.00	0.19-0.21	3.0-5.9	2.0-3.0	.37
	19-30	27-42-45	1.20-1.30	1.40-4.00	0.15-0.21	3.0-5.9	0.5-2.0	.32
	30-50	27-45-45	1.20-1.30	1.40-4.00	0.15-0.21	3.0-5.9	0.5-2.0	.28
	50-60	27-32-40	1.20-1.30	1.40-4.00	0.19-0.21	3.0-5.9	0.5-1.0	.43
329F:								
Kilchis--------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-7	12-15-27	0.85-1.00	14.00-42.00	0.25-0.35	0.0-2.9	4.0-10	.10
	7-11	12-18-27	1.00-1.20	14.00-42.00	0.05-0.12	0.0-2.9	3.0-6.0	.10
	11-19	12-12-27	1.10-1.40	14.00-42.00	0.04-0.11	0.0-2.9	1.0-2.0	.05
	19-23	---	---	---	---	---	---	---
Rock outcrop---------	0-60	---	---	---	---	---	---	---
338F:								
Laderly--------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-13	12-18-20	0.75-0.85	14.00-42.00	0.15-0.20	0.0-2.9	7.0-12	.10
	13-22	15-20-27	0.75-0.85	14.00-42.00	0.05-0.10	0.0-2.9	5.0-10	.10
	22-30	15-20-27	0.75-0.85	14.00-42.00	0.05-0.10	0.0-2.9	0.0-3.0	.05
	30-34	---	---	---	---	---	---	---
Rock outcrop---------	0-60	---	---	---	---	---	---	---
342D:								
McMille--------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-5	18-23-27	0.85-0.90	4.00-14.00	0.25-0.35	0.0-2.9	5.0-10	.37
	5-14	18-23-27	0.85-1.00	4.00-14.00	0.20-0.25	0.0-2.9	2.0-5.0	.37
	14-20	25-26-35	0.90-1.10	4.00-14.00	0.19-0.21	3.0-5.9	0.5-2.0	.43
	20-32	25-28-35	0.90-1.20	4.00-14.00	0.19-0.21	3.0-5.9	0.5-2.0	.43
	32-45	18-27-35	0.90-1.20	4.00-14.00	0.19-0.21	3.0-5.9	0.0-1.0	.55
	45-55	---	---	---	---	---	---	---
345A:								
Mues-----------------	0-6	15-15-25	0.75-0.90	4.00-14.00	0.35-0.45	3.0-5.9	5.0-10	.37
	6-11	15-18-25	0.75-0.90	4.00-14.00	0.35-0.45	3.0-5.9	5.0-10	.37
	11-25	15-20-25	0.75-0.90	4.00-14.00	0.25-0.45	3.0-5.9	4.0-8.0	.32
	25-31	15-22-25	0.75-0.90	4.00-14.00	0.25-0.30	3.0-5.9	3.0-6.0	.37
	31-36	15-23-25	0.75-0.90	4.00-14.00	0.25-0.30	3.0-5.9	2.0-5.0	.43
	36-60	15-20-25	1.10-1.30	0.01-0.42	0.04-0.10	3.0-5.9	0.5-2.0	.10

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion Kw
	In	*Pct*	*g/cc*	*um/sec*	*In/in*	*Pct*	*Pct*	
346D:								
Murtip----------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-7	12-15-20	0.70-0.85	4.00-14.00	0.35-0.45	0.0-2.9	10-12	.32
	7-14	12-18-20	0.70-0.85	4.00-14.00	0.35-0.45	0.0-2.9	7.0-10	.28
	14-24	18-22-30	0.75-0.85	4.00-14.00	0.20-0.25	0.0-2.9	3.0-10	.37
	24-43	18-24-30	0.75-0.85	4.00-14.00	0.20-0.25	0.0-2.9	1.0-3.0	.43
	43-50	18-22-30	0.75-0.85	4.00-14.00	0.12-0.20	0.0-2.9	0.0-1.0	.37
	50-60	---	---	---	---	---	---	---
347E:								
Murtip----------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-7	12-15-20	0.70-0.85	4.00-14.00	0.35-0.45	0.0-2.9	10-12	.32
	7-14	12-18-20	0.70-0.85	4.00-14.00	0.35-0.45	0.0-2.9	7.0-10	.28
	14-24	18-22-30	0.75-0.85	4.00-14.00	0.20-0.25	0.0-2.9	3.0-10	.37
	24-43	18-24-30	0.75-0.85	4.00-14.00	0.20-0.25	0.0-2.9	1.0-3.0	.43
	43-50	18-22-30	0.75-0.85	4.00-14.00	0.12-0.20	0.0-2.9	0.0-1.0	.37
	50-60	---	---	---	---	---	---	---
Caterl----------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-6	12-15-20	0.70-0.85	4.00-14.00	0.20-0.25	0.0-2.9	10-12	.15
	6-12	12-18-20	0.70-0.85	4.00-14.00	0.15-0.20	0.0-2.9	7.0-10	.10
	12-18	12-20-20	0.70-0.85	4.00-14.00	0.15-0.20	0.0-2.9	5.0-10	.10
	18-35	18-22-30	0.75-0.85	4.00-14.00	0.10-0.16	0.0-2.9	1.0-3.0	.10
	35-53	12-24-27	0.75-0.85	4.00-14.00	0.05-0.10	0.0-2.9	0.0-1.0	.05
	53-57	---	---	---	---	---	---	---
350E:								
Necanicum-------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-10	15-20-25	0.75-0.85	4.00-14.00	0.15-0.20	0.0-2.9	10-15	.10
	10-18	15-22-25	0.75-0.85	4.00-14.00	0.15-0.20	0.0-2.9	7.0-10	.10
	18-27	18-25-27	0.75-0.90	4.00-14.00	0.05-0.15	0.0-2.9	2.0-7.0	.10
	27-49	18-25-27	0.75-0.90	4.00-14.00	0.05-0.15	0.0-2.9	2.0-5.0	.05
	49-71	18-25-27	0.75-0.90	4.00-14.00	0.05-0.15	0.0-2.9	0.0-2.0	.05
Ascar-----------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-9	10-15-20	0.75-0.85	14.00-42.00	0.10-0.15	0.0-2.9	10-15	.05
	9-25	15-20-20	0.75-0.85	14.00-42.00	0.10-0.15	0.0-2.9	7.0-10	.05
	25-39	18-20-27	0.75-0.85	14.00-42.00	0.05-0.15	0.0-2.9	2.0-7.0	.05
	39-43	---	---	---	---	---	---	---

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion Kw
	In	*Pct*	*g/cc*	*um/sec*	*In/in*	*Pct*	*Pct*	
356D:								
Rinearson------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-6	20-22-27	0.90-1.00	4.00-14.00	0.19-0.21	0.0-2.9	3.0-5.0	.28
	6-16	20-23-27	0.90-1.00	4.00-14.00	0.19-0.21	0.0-2.9	3.0-5.0	.37
	16-27	25-28-35	1.00-1.20	4.00-14.00	0.19-0.21	3.0-5.9	1.0-3.0	.43
	27-39	25-30-35	1.00-1.20	4.00-14.00	0.19-0.21	3.0-5.9	0.5-2.0	.43
	39-52	22-28-35	1.00-1.20	4.00-14.00	0.19-0.21	3.0-5.9	0.5-1.0	.49
	52-62	---	---	---	---	---	---	---
357E:								
Scaponia-------------	0-2	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	2-9	12-15-18	1.00-1.20	4.00-14.00	0.17-0.19	0.0-2.9	2.0-4.0	.37
	9-15	18-23-27	1.10-1.30	4.00-14.00	0.14-0.15	0.0-2.9	0.5-2.0	.43
	15-26	18-23-27	1.10-1.30	4.00-14.00	0.14-0.15	0.0-2.9	0.5-2.0	.43
	26-45	18-23-27	1.10-1.30	4.00-14.00	0.14-0.15	0.0-2.9	0.5-2.0	.49
	45-55	---	---	---	---	---	---	---
Braun----------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-4	14-16-18	1.00-1.20	4.00-14.00	0.19-0.21	0.0-2.9	2.0-4.0	.32
	4-10	18-22-25	1.10-1.30	4.00-14.00	0.15-0.17	0.0-2.9	2.0-3.0	.28
	10-21	18-22-25	1.10-1.30	4.00-14.00	0.15-0.17	0.0-2.9	1.0-2.0	.43
	21-30	18-22-25	1.10-1.30	4.00-14.00	0.12-0.13	0.0-2.9	1.0-2.0	.49
	30-36	18-22-25	1.10-1.30	4.00-14.00	0.12-0.13	0.0-2.9	0.5-1.0	.49
	36-46	---	---	---	---	---	---	---
358D:								
Skipanon-------------	0-2	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	2-7	18-20-25	0.85-0.95	4.00-14.00	0.15-0.20	0.0-2.9	10-15	.15
	7-15	18-25-25	0.90-1.00	4.00-14.00	0.15-0.20	0.0-2.9	3.0-9.0	.20
	15-29	20-28-35	0.95-1.10	4.00-14.00	0.12-0.18	3.0-5.9	2.0-3.0	.17
	29-44	20-30-35	0.95-1.10	4.00-14.00	0.12-0.18	3.0-5.9	1.0-3.0	.15
	44-62	25-28-35	0.95-1.10	4.00-14.00	0.17-0.21	3.0-5.9	0.5-1.0	.32
358E:								
Skipanon-------------	0-2	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	2-7	18-20-25	0.85-0.95	4.00-14.00	0.15-0.20	0.0-2.9	10-15	.15
	7-15	18-25-25	0.90-1.00	4.00-14.00	0.15-0.20	0.0-2.9	3.0-9.0	.20
	15-29	20-28-35	0.95-1.10	4.00-14.00	0.12-0.18	3.0-5.9	2.0-3.0	.17
	29-44	20-30-35	0.95-1.10	4.00-14.00	0.12-0.18	3.0-5.9	1.0-3.0	.15
	44-62	25-28-35	0.95-1.10	4.00-14.00	0.17-0.21	3.0-5.9	0.5-1.0	.32
359D:								
Svensen--------------	0-3	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	3-11	15-15-20	0.85-1.00	14.00-42.00	0.35-0.45	0.0-2.9	5.0-10	.20
	11-20	15-18-20	0.90-1.00	14.00-42.00	0.35-0.45	0.0-2.9	4.0-9.0	.28
	20-41	20-25-30	1.10-1.35	14.00-42.00	0.16-0.21	3.0-5.9	1.0-3.0	.28
	41-63	15-15-25	1.10-1.45	14.00-42.00	0.11-0.18	0.0-2.9	0.5-2.0	.24

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion Kw
	In	*Pct*	*g/cc*	*um/sec*	*In/in*	*Pct*	*Pct*	
359E:								
Svensen---------------	0-3	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	3-11	15-15-20	0.85-1.00	14.00-42.00	0.35-0.45	0.0-2.9	5.0-10	.20
	11-20	15-18-20	0.90-1.00	14.00-42.00	0.35-0.45	0.0-2.9	4.0-9.0	.28
	20-41	20-25-30	1.10-1.35	14.00-42.00	0.16-0.21	3.0-5.9	1.0-3.0	.28
	41-63	15-15-25	1.10-1.45	14.00-42.00	0.11-0.18	0.0-2.9	0.5-2.0	.24
363D:								
Tolke-----------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-6	18-23-27	0.75-0.85	4.00-14.00	0.25-0.35	0.0-2.9	5.0-10	.32
	6-10	18-23-27	0.75-0.85	4.00-14.00	0.25-0.35	0.0-2.9	5.0-10	.37
	10-17	20-28-35	0.70-0.85	4.00-14.00	0.20-0.30	0.0-2.9	3.0-7.0	.32
	17-26	20-28-35	0.70-0.85	4.00-14.00	0.20-0.30	0.0-2.9	2.0-5.0	.37
	26-45	20-28-35	0.70-0.85	4.00-14.00	0.20-0.30	0.0-2.9	1.0-3.0	.43
	45-61	20-28-35	0.70-0.85	4.00-14.00	0.20-0.30	0.0-2.9	0.5-2.0	.43
371C:								
Walluski--------------	0-2	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	2-13	18-25-27	0.85-1.00	4.00-14.00	0.25-0.35	0.0-2.9	5.0-10	.37
	13-27	22-30-35	1.00-1.20	1.40-14.00	0.19-0.21	3.0-5.9	1.0-5.0	.37
	27-36	22-33-35	1.00-1.20	1.40-14.00	0.19-0.21	3.0-5.9	1.0-3.0	.37
	36-62	27-28-45	1.10-1.35	0.42-4.00	0.19-0.21	3.0-8.9	0.5-2.0	.43
403E:								
Astoria---------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-8	20-25-27	0.85-1.00	4.00-14.00	0.35-0.45	0.0-2.9	6.0-12	.37
	8-12	20-28-35	0.90-1.00	1.40-14.00	0.21-0.35	0.0-5.9	4.0-8.0	.37
	12-25	35-35-50	1.10-1.20	1.40-4.00	0.14-0.21	3.0-5.9	1.0-3.0	.37
	25-37	35-38-50	1.10-1.20	1.40-4.00	0.14-0.21	3.0-5.9	0.5-2.0	.32
	37-51	30-35-40	1.10-1.20	1.40-4.00	0.17-0.21	3.0-5.9	0.5-1.0	.37
	51-61	---	---	---	---	---	---	---
420E:								
Hembre----------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-7	18-20-27	0.85-0.95	4.00-14.00	0.25-0.35	3.0-5.9	5.0-10	.28
	7-14	18-23-27	0.90-1.00	4.00-14.00	0.16-0.21	3.0-5.9	4.0-8.0	.32
	14-19	25-28-30	1.00-1.30	4.00-14.00	0.14-0.21	3.0-5.9	3.0-6.0	.32
	19-28	25-28-30	1.00-1.30	4.00-14.00	0.14-0.21	3.0-5.9	2.0-4.0	.37
	28-43	25-27-30	1.10-1.30	4.00-14.00	0.08-0.21	3.0-5.9	1.0-3.0	.28
	43-47	---	---	---	---	---	---	---

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion Kw
	In	Pct	g/cc	um/sec	In/in	Pct	Pct	
420F:								
Hembre----------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-7	18-20-27	0.85-0.95	4.00-14.00	0.25-0.35	3.0-5.9	5.0-10	.28
	7-14	18-23-27	0.90-1.00	4.00-14.00	0.16-0.21	3.0-5.9	4.0-8.0	.32
	14-19	25-28-30	1.00-1.30	4.00-14.00	0.14-0.21	3.0-5.9	3.0-6.0	.32
	19-28	25-28-30	1.00-1.30	4.00-14.00	0.14-0.21	3.0-5.9	2.0-4.0	.37
	28-43	25-27-30	1.10-1.30	4.00-14.00	0.08-0.21	3.0-5.9	1.0-3.0	.28
	43-47	---	---	---	---	---	---	---
425E:								
Klickitat------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-5	20-20-27	0.85-1.00	4.00-14.00	0.25-0.35	0.0-2.9	5.0-10	.05
	5-13	20-22-27	1.00-1.20	4.00-14.00	0.05-0.14	0.0-2.9	4.0-8.0	.05
	13-19	25-25-35	1.20-1.40	4.00-14.00	0.05-0.12	0.0-2.9	3.0-5.0	.10
	19-42	25-26-35	1.20-1.40	4.00-14.00	0.04-0.12	0.0-2.9	2.0-4.0	.02
	42-46	---	---	---	---	---	---	---
433D:								
Melby----------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-5	20-23-25	1.10-1.30	4.00-14.00	0.19-0.21	0.0-2.9	3.0-6.0	.32
	5-10	20-23-25	1.10-1.30	4.00-14.00	0.19-0.21	0.0-2.9	3.0-6.0	.32
	10-18	35-38-40	1.20-1.30	4.00-14.00	0.19-0.21	0.0-2.9	1.0-3.0	.28
	18-26	35-38-40	1.20-1.30	4.00-14.00	0.19-0.21	0.0-2.9	1.0-3.0	.28
	26-42	40-43-45	1.35-1.45	1.40-4.00	0.13-0.17	3.0-5.9	0.5-1.0	.32
	42-47	40-43-45	1.35-1.45	1.40-4.00	0.13-0.17	3.0-5.9	0.5-1.0	.37
	47-57	---	---	---	---	---	---	---
433E:								
Melby----------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-5	20-23-25	1.10-1.30	4.00-14.00	0.19-0.21	0.0-2.9	3.0-6.0	.32
	5-10	20-23-25	1.10-1.30	4.00-14.00	0.19-0.21	0.0-2.9	3.0-6.0	.32
	10-18	35-38-40	1.20-1.30	4.00-14.00	0.19-0.21	0.0-2.9	1.0-3.0	.28
	18-26	35-38-40	1.20-1.30	4.00-14.00	0.19-0.21	0.0-2.9	1.0-3.0	.28
	26-42	40-43-45	1.35-1.45	1.40-4.00	0.13-0.17	3.0-5.9	0.5-1.0	.32
	42-47	40-43-45	1.35-1.45	1.40-4.00	0.13-0.17	3.0-5.9	0.5-1.0	.37
	47-57	---	---	---	---	---	---	---
439E:								
Tolke----------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-6	18-23-27	0.75-0.85	4.00-14.00	0.25-0.35	0.0-2.9	5.0-10	.32
	6-10	18-23-27	0.75-0.85	4.00-14.00	0.25-0.35	0.0-2.9	5.0-10	.37
	10-17	20-28-35	0.70-0.85	4.00-14.00	0.20-0.30	0.0-2.9	3.0-7.0	.32
	17-26	20-28-35	0.70-0.85	4.00-14.00	0.20-0.30	0.0-2.9	2.0-5.0	.37
	26-45	20-28-35	0.70-0.85	4.00-14.00	0.20-0.30	0.0-2.9	1.0-3.0	.43
	45-61	20-28-35	0.70-0.85	4.00-14.00	0.20-0.30	0.0-2.9	0.5-2.0	.43

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion Kw
	In	*Pct*	*g/cc*	*um/sec*	*In/in*	*Pct*	*Pct*	
501D:								
Apt------------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-6	27-28-35	1.00-1.20	4.00-14.00	0.18-0.21	3.0-5.9	5.0-10	.24
	6-11	27-33-35	1.00-1.20	4.00-14.00	0.17-0.21	3.0-5.9	3.0-7.0	.28
	11-18	45-45-60	1.00-1.20	1.40-4.00	0.13-0.17	3.0-5.9	1.0-4.0	.24
	18-27	45-45-60	1.10-1.30	1.40-4.00	0.13-0.17	3.0-5.9	0.5-3.0	.28
	27-37	45-48-60	1.10-1.30	1.40-4.00	0.12-0.16	3.0-5.9	0.0-1.0	.24
	37-51	45-50-60	1.10-1.30	1.40-4.00	0.12-0.16	3.0-5.9	0.0-1.0	.24
	51-66	30-37-45	1.20-1.40	1.40-4.00	0.17-0.21	3.0-5.9	0.0-0.5	.37
McDuff---------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-9	27-28-35	1.00-1.20	4.00-14.00	0.19-0.21	3.0-5.9	5.0-10	.37
	9-13	27-33-35	1.00-1.20	4.00-14.00	0.19-0.21	3.0-5.9	3.0-7.0	.32
	13-21	40-43-60	1.10-1.30	1.40-4.00	0.15-0.17	3.0-5.9	1.0-4.0	.28
	21-37	40-45-60	1.20-1.40	1.40-4.00	0.13-0.17	3.0-5.9	0.0-1.0	.32
	37-47	---	---	---	---	---	---	---
501E:								
Apt------------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-6	27-28-35	1.00-1.20	4.00-14.00	0.18-0.21	3.0-5.9	5.0-10	.24
	6-11	27-33-35	1.00-1.20	4.00-14.00	0.17-0.21	3.0-5.9	3.0-7.0	.28
	11-18	45-45-60	1.00-1.20	1.40-4.00	0.13-0.17	3.0-5.9	1.0-4.0	.24
	18-27	45-45-60	1.10-1.30	1.40-4.00	0.13-0.17	3.0-5.9	0.5-3.0	.28
	27-37	45-48-60	1.10-1.30	1.40-4.00	0.12-0.16	3.0-5.9	0.0-1.0	.24
	37-51	45-50-60	1.10-1.30	1.40-4.00	0.12-0.16	3.0-5.9	0.0-1.0	.24
	51-66	30-37-45	1.20-1.40	1.40-4.00	0.17-0.21	3.0-5.9	0.0-0.5	.37
McDuff---------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-9	27-28-35	1.00-1.20	4.00-14.00	0.19-0.21	3.0-5.9	5.0-10	.37
	9-13	27-33-35	1.00-1.20	4.00-14.00	0.19-0.21	3.0-5.9	3.0-7.0	.32
	13-21	40-43-60	1.10-1.30	1.40-4.00	0.15-0.17	3.0-5.9	1.0-4.0	.28
	21-37	40-45-60	1.20-1.40	1.40-4.00	0.13-0.17	3.0-5.9	0.0-1.0	.32
	37-47	---	---	---	---	---	---	---
517A:								
Euchre---------------	0-8	12-22-25	0.80-0.90	4.00-14.00	0.30-0.45	0.0-2.9	7.0-17	.32
	8-14	12-22-25	0.80-0.90	4.00-14.00	0.30-0.45	0.0-2.9	5.0-12	.37
	14-24	27-30-35	1.15-1.30	1.40-4.00	0.16-0.21	3.0-5.9	2.0-5.0	.37
	24-39	27-32-35	1.15-1.30	1.40-4.00	0.16-0.21	3.0-5.9	1.0-3.0	.37
	39-55	10-15-35	1.15-1.40	1.40-14.00	0.14-0.18	0.0-5.9	0.5-1.0	.43
	55-60	3-10-10	1.30-1.50	14.00-42.00	0.04-0.13	0.0-2.9	0.5-1.0	.05

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion Kw
	In	*Pct*	*g/cc*	*um/sec*	*In/in*	*Pct*	*Pct*	
519D:								
Fendall	0-8	20-25-27	0.85-1.00	4.00-14.00	0.25-0.35	0.0-2.9	10-15	.28
	8-13	20-26-27	0.90-1.00	4.00-14.00	0.25-0.35	0.0-2.9	5.0-10	.37
	13-17	30-32-40	1.10-1.20	1.40-4.00	0.17-0.21	3.0-5.9	1.0-2.0	.37
	17-27	35-38-50	1.20-1.30	1.40-4.00	0.11-0.21	3.0-5.9	0.5-1.0	.37
	27-34	35-38-50	1.20-1.30	1.40-4.00	0.11-0.21	3.0-5.9	0.5-1.0	.37
	34-44	---	---	---	---	---	---	---
Winema	0-10	20-25-27	0.80-0.90	4.00-14.00	0.35-0.45	0.0-2.9	10-15	.24
	10-21	25-25-30	0.80-0.90	4.00-14.00	0.35-0.45	0.0-2.9	5.0-10	.28
	21-28	30-34-35	1.10-1.25	1.40-4.00	0.19-0.21	3.0-5.9	1.0-3.0	.37
	28-42	35-42-50	1.20-1.35	1.40-4.00	0.15-0.17	3.0-5.9	0.5-2.0	.28
	42-60	35-45-50	1.20-1.35	1.40-4.00	0.10-0.17	3.0-5.9	0.5-1.0	.28
532D:								
Klootchie	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-9	18-20-20	0.75-0.85	4.00-14.00	0.35-0.45	0.0-2.9	10-15	.32
	9-19	18-22-25	0.75-0.85	4.00-14.00	0.35-0.45	0.0-2.9	7.0-10	.37
	19-44	20-28-30	0.75-0.90	4.00-14.00	0.25-0.30	0.0-2.9	2.0-5.0	.32
	44-68	20-30-30	0.75-0.90	4.00-14.00	0.25-0.30	0.0-2.9	0.0-2.0	.43
Neotsu	0-3	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	3-9	15-18-20	0.75-0.85	4.00-14.00	0.35-0.45	0.0-2.9	10-15	.37
	9-20	15-18-20	0.75-0.85	4.00-14.00	0.35-0.45	0.0-2.9	7.0-10	.37
	20-32	18-18-30	0.85-0.90	4.00-14.00	0.15-0.20	0.0-2.9	1.0-5.0	.32
	32-42	---	---	---	---	---	---	---
532E:								
Klootchie	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-9	18-20-20	0.75-0.85	4.00-14.00	0.35-0.45	0.0-2.9	10-15	.32
	9-19	18-22-25	0.75-0.85	4.00-14.00	0.35-0.45	0.0-2.9	7.0-10	.37
	19-44	20-28-30	0.75-0.90	4.00-14.00	0.25-0.30	0.0-2.9	2.0-5.0	.32
	44-68	20-30-30	0.75-0.90	4.00-14.00	0.25-0.30	0.0-2.9	0.0-2.0	.43
Neotsu	0-3	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	3-9	15-18-20	0.75-0.85	4.00-14.00	0.35-0.45	0.0-2.9	10-15	.37
	9-20	15-18-20	0.75-0.85	4.00-14.00	0.35-0.45	0.0-2.9	7.0-10	.37
	20-32	18-18-30	0.85-0.90	4.00-14.00	0.15-0.20	0.0-2.9	1.0-5.0	.32
	32-42	---	---	---	---	---	---	---
543F:								
Neotsu	0-3	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	3-9	15-18-20	0.75-0.85	4.00-14.00	0.35-0.45	0.0-2.9	10-15	.37
	9-20	15-18-20	0.75-0.85	4.00-14.00	0.35-0.45	0.0-2.9	7.0-10	.37
	20-32	18-18-30	0.85-0.90	4.00-14.00	0.15-0.20	0.0-2.9	1.0-5.0	.32
	32-42	---	---	---	---	---	---	---

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion Kw
	In	*Pct*	*g/cc*	*um/sec*	*In/in*	*Pct*	*Pct*	
543F:								
Necanicum------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-10	15-20-25	0.75-0.85	4.00-14.00	0.15-0.20	0.0-2.9	10-15	.10
	10-18	15-22-25	0.75-0.85	4.00-14.00	0.15-0.20	0.0-2.9	7.0-10	.10
	18-27	18-25-27	0.75-0.90	4.00-14.00	0.05-0.15	0.0-2.9	2.0-7.0	.10
	27-49	18-25-27	0.75-0.90	4.00-14.00	0.05-0.15	0.0-2.9	2.0-5.0	.05
	49-71	18-25-27	0.75-0.90	4.00-14.00	0.05-0.15	0.0-2.9	0.0-2.0	.05
552F:								
Reedsport------------	0-2	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	2-8	10-15-25	0.85-1.00	4.00-14.00	0.35-0.45	0.0-2.9	5.0-12	.20
	8-16	10-20-25	0.90-1.00	4.00-14.00	0.35-0.45	3.0-5.9	4.0-6.0	.17
	16-26	20-25-35	1.10-1.35	4.00-14.00	0.11-0.21	3.0-5.9	1.0-3.0	.37
	26-34	20-30-35	1.10-1.35	4.00-14.00	0.11-0.21	3.0-5.9	0.5-2.0	.37
	34-44	---	---	---	---	---	---	---
Tolovana-------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-6	15-15-20	0.75-0.90	4.00-14.00	0.35-0.45	3.0-5.9	10-15	.32
	6-9	15-17-20	0.75-0.90	4.00-14.00	0.35-0.45	3.0-5.9	10-15	.32
	9-20	15-19-20	0.75-0.90	4.00-14.00	0.35-0.45	3.0-5.9	5.0-10	.37
	20-27	27-28-35	1.20-1.35	1.40-4.00	0.17-0.21	3.0-5.9	1.0-3.0	.43
	27-38	27-28-35	1.20-1.35	1.40-4.00	0.17-0.21	3.0-5.9	1.0-3.0	.43
	38-48	27-29-35	1.20-1.35	1.40-4.00	0.17-0.21	3.0-5.9	0.5-1.0	.32
	48-60	20-28-35	1.10-1.35	1.40-14.00	0.12-0.21	3.0-5.9	0.5-1.0	.32
555D:								
Templeton------------	0-2	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	2-15	18-23-27	0.85-0.95	4.00-14.00	0.25-0.35	0.0-2.9	10-15	.37
	15-28	25-31-35	0.90-1.00	4.00-14.00	0.20-0.25	0.0-2.9	3.0-9.0	.32
	28-43	25-34-35	0.95-1.10	4.00-14.00	0.20-0.25	0.0-2.9	2.0-5.0	.28
	43-54	25-34-35	0.95-1.10	4.00-14.00	0.20-0.25	0.0-2.9	1.0-5.0	.37
	54-59	25-34-35	0.95-1.10	4.00-14.00	0.20-0.25	0.0-2.9	0.5-5.0	.37
	59-69	---	---	---	---	---	---	---
Fendall--------------	0-8	20-25-27	0.85-1.00	4.00-14.00	0.25-0.35	0.0-2.9	10-15	.28
	8-13	20-26-27	0.90-1.00	4.00-14.00	0.25-0.35	0.0-2.9	5.0-10	.37
	13-17	30-32-40	1.10-1.20	1.40-4.00	0.17-0.21	3.0-5.9	1.0-2.0	.37
	17-27	35-38-50	1.20-1.30	1.40-4.00	0.11-0.21	3.0-5.9	0.5-1.0	.37
	27-34	35-38-50	1.20-1.30	1.40-4.00	0.11-0.21	3.0-5.9	0.5-1.0	.37
	34-44	---	---	---	---	---	---	---

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion
								Kw
	In	Pct	g/cc	um/sec	In/in	Pct	Pct	
556D:								
Tolovana-------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-6	15-15-20	0.75-0.90	4.00-14.00	0.35-0.45	3.0-5.9	10-15	.32
	6-9	15-17-20	0.75-0.90	4.00-14.00	0.35-0.45	3.0-5.9	10-15	.32
	9-20	15-19-20	0.75-0.90	4.00-14.00	0.35-0.45	3.0-5.9	5.0-10	.37
	20-27	27-28-35	1.20-1.35	1.40-4.00	0.17-0.21	3.0-5.9	1.0-3.0	.43
	27-38	27-28-35	1.20-1.35	1.40-4.00	0.17-0.21	3.0-5.9	1.0-3.0	.43
	38-48	27-29-35	1.20-1.35	1.40-4.00	0.17-0.21	3.0-5.9	0.5-1.0	.32
	48-60	20-28-35	1.10-1.35	1.40-14.00	0.12-0.21	3.0-5.9	0.5-1.0	.32
Reedsport------------	0-2	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	2-8	10-15-25	0.85-1.00	4.00-14.00	0.35-0.45	0.0-2.9	5.0-12	.20
	8-16	10-20-25	0.90-1.00	4.00-14.00	0.35-0.45	3.0-5.9	4.0-6.0	.17
	16-26	20-25-35	1.10-1.35	4.00-14.00	0.11-0.21	3.0-5.9	1.0-3.0	.37
	26-34	20-30-35	1.10-1.35	4.00-14.00	0.11-0.21	3.0-5.9	0.5-2.0	.37
	34-44	---	---	---	---	---	---	---
556E:								
Tolovana-------------	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-6	15-15-20	0.75-0.90	4.00-14.00	0.35-0.45	3.0-5.9	10-15	.32
	6-9	15-17-20	0.75-0.90	4.00-14.00	0.35-0.45	3.0-5.9	10-15	.32
	9-20	15-19-20	0.75-0.90	4.00-14.00	0.35-0.45	3.0-5.9	5.0-10	.37
	20-27	27-28-35	1.20-1.35	1.40-4.00	0.17-0.21	3.0-5.9	1.0-3.0	.43
	27-38	27-28-35	1.20-1.35	1.40-4.00	0.17-0.21	3.0-5.9	1.0-3.0	.43
	38-48	27-29-35	1.20-1.35	1.40-4.00	0.17-0.21	3.0-5.9	0.5-1.0	.32
	48-60	20-28-35	1.10-1.35	1.40-14.00	0.12-0.21	3.0-5.9	0.5-1.0	.32
Reedsport------------	0-2	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	2-8	10-15-25	0.85-1.00	4.00-14.00	0.35-0.45	0.0-2.9	5.0-12	.20
	8-16	10-20-25	0.90-1.00	4.00-14.00	0.35-0.45	3.0-5.9	4.0-6.0	.17
	16-26	20-25-35	1.10-1.35	4.00-14.00	0.11-0.21	3.0-5.9	1.0-3.0	.37
	26-34	20-30-35	1.10-1.35	4.00-14.00	0.11-0.21	3.0-5.9	0.5-2.0	.37
	34-44	---	---	---	---	---	---	---
611B:								
Dystrudepts, warm----	0-1	0-15-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---
	1-6	27-28-35	1.20-1.35	1.40-4.00	0.19-0.21	3.0-5.9	5.0-10	.37
	6-22	27-32-35	1.20-1.35	1.40-4.00	0.19-0.21	3.0-5.9	2.0-5.0	.32
	22-31	27-38-45	1.20-1.35	0.42-4.00	0.14-0.21	3.0-5.9	1.0-3.0	.32
	31-39	27-50-55	1.20-1.35	0.42-4.00	0.14-0.21	3.0-8.9	1.0-3.0	.20
	39-49	27-55-55	1.20-1.35	0.42-4.00	0.14-0.21	3.0-8.9	0.5-2.0	.20
	49-61	27-35-40	1.20-1.35	1.40-4.00	0.19-0.21	3.0-5.9	0.5-2.0	.37

Table 25.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion
								Kw
	In	*Pct*	*g/cc*	*um/sec*	*In/in*	*Pct*	*Pct*	
611B:								
Aquepts, warm--------	0-6	18-25-27	1.00-1.20	4.00-14.00	0.19-0.21	0.0-2.9	5.0-10	.37
	6-18	27-38-45	1.20-1.35	1.40-4.00	0.15-0.21	3.0-5.9	2.0-5.0	.24
	18-31	27-42-45	1.20-1.35	1.40-4.00	0.15-0.21	3.0-5.9	1.0-3.0	.28
	31-51	27-28-45	1.20-1.35	1.40-4.00	0.15-0.21	3.0-5.9	1.0-3.0	.43
	51-60	10-28-45	1.20-1.40	1.40-42.00	0.13-0.21	0.0-5.9	0.5-3.0	.32
Humaquepts, warm-----	0-11	18-30-35	1.10-1.20	1.40-14.00	0.19-0.21	0.0-5.9	5.0-10	.32
	11-19	25-34-40	1.20-1.30	1.40-4.00	0.19-0.21	3.0-5.9	2.0-3.0	.37
	19-30	27-42-45	1.20-1.30	1.40-4.00	0.15-0.21	3.0-5.9	0.5-2.0	.32
	30-50	27-45-45	1.20-1.30	1.40-4.00	0.15-0.21	3.0-5.9	0.5-2.0	.28
	50-60	27-32-40	1.20-1.30	1.40-4.00	0.19-0.21	3.0-5.9	0.5-1.0	.43
W:								
Water	---	---	---	---	---	---	---	---

Table 26.--Chemical Properties of the Soils

(Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Salinity	Sodium adsorption ratio
	In	*meq/100 g*	*pH*	*Pct*	*mmhos/cm*	
1A:						
Brenner---------------	0-7	15-35	5.1-6.0	0	0	0
	7-12	15-35	5.1-5.5	0	0	0
	12-18	10-25	5.1-5.5	0	0	0
	18-26	10-25	5.1-5.5	0	0	0
	26-40	10-25	5.1-5.5	0	0	0
	40-55	15-30	5.6-6.0	0	0	0
	55-60	15-30	5.6-6.0	0	0	0
2A:						
Fluvaquents-----------	0-4	10-30	5.6-7.3	0	0.0-4.0	0
	4-7	10-30	5.6-7.3	0	0.0-4.0	0
	7-22	10-35	5.6-7.3	0	2.0-8.0	0
	22-25	10-35	5.6-7.3	0	2.0-8.0	0
	25-45	10-35	5.6-7.3	0	2.0-8.0	0
	45-60	5.0-35	5.6-7.3	0	2.0-8.0	0
Histosols-------------	0-7	120-165	5.6-7.3	0	2.0-8.0	0
	7-13	120-165	5.6-7.3	0	2.0-8.0	0
	13-20	120-165	5.6-7.3	0	2.0-8.0	0
	20-32	25-45	5.6-7.3	0	2.0-8.0	0
	32-60	25-45	5.6-7.3	0	2.0-8.0	0
3A:						
Coquille--------------	0-6	15-35	5.6-7.3	0	0.0-2.0	0
	6-14	15-30	5.6-7.3	0	0.0-2.0	0
	14-34	15-30	5.6-7.3	0	0.0-2.0	0
	34-49	15-30	5.6-7.3	0	0.0-2.0	0
	49-60	15-30	5.6-7.3	0	0.0-4.0	0
4D:						
Ginsberg--------------	0-1	---	3.5-5.5	0	0	0
	1-6	50-70	4.5-6.0	0	0	0
	6-19	50-70	4.5-6.0	0	0	0
	19-36	30-50	4.5-6.0	0	0	0
	36-50	30-50	4.5-6.0	0	0	0
	50-63	30-50	4.5-6.0	0	0	0
4E:						
Ginsberg--------------	0-1	---	3.5-5.5	0	0	0
	1-6	50-70	4.5-6.0	0	0	0
	6-19	50-70	4.5-6.0	0	0	0
	19-36	30-50	4.5-6.0	0	0	0
	36-50	30-50	4.5-6.0	0	0	0
	50-63	30-50	4.5-6.0	0	0	0
Klistan---------------	0-1	---	3.5-5.5	0	0	0
	1-7	40-60	4.5-5.5	0	0	0
	7-14	40-60	4.5-5.5	0	0	0
	14-26	30-50	4.5-5.5	0	0	0
	26-36	30-50	4.5-5.5	0	0	0
	36-44	30-50	4.5-5.5	0	0	0
	44-48	---	---	---	---	---

Table 26.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Salinity	Sodium adsorption ratio
	In	*meq/100 g*	*pH*	*Pct*	*mmhos/cm*	
5E:						
Ferrelo--------------	0-1	---	3.5-5.5	0	0	0
	1-19	10-25	4.5-6.0	0	0	0
	19-37	5.0-15	5.1-6.0	0	0	0
	37-55	0.0-5.0	5.1-6.0	0	0	0
	55-89	0.0-5.0	5.1-6.0	0	0	0
6D:						
Horseprairie---------	0-2	---	3.5-5.5	0	0	0
	2-11	5.0-25	4.5-5.5	0	0	0
	11-28	5.0-25	4.5-5.5	0	0	0
	28-45	5.0-40	4.5-5.5	0	0	0
	45-62	5.0-25	5.1-6.0	0	0	0
Ferrelo--------------	0-1	---	3.5-5.5	0	0	0
	1-19	10-25	4.5-6.0	0	0	0
	19-37	5.0-15	5.1-6.0	0	0	0
	37-55	0.0-5.0	5.1-6.0	0	0	0
	55-89	0.0-5.0	5.1-6.0	0	0	0
7:						
Dune land------------	0-60	---	---	---	---	---
8A:						
Depoe----------------	0-3	---	3.5-5.5	0	0	0
	3-7	5.0-15	4.5-5.5	0	0	0
	7-17	5.0-15	4.5-5.5	0	0	0
	17-31	---	4.5-5.5	---	---	---
	31-60	0.0-0.0	4.5-5.5	0	0	0
9B:						
Waldport-------------	0-2	5.0-15	5.1-6.0	0	0	0
	2-6	5.0-10	5.1-6.0	0	0	0
	6-18	0.0-5.0	5.1-6.0	0	0	0
	18-60	0.0-5.0	5.1-6.0	0	0	0
9C:						
Waldport-------------	0-2	5.0-15	5.1-6.0	0	0	0
	2-6	5.0-10	5.1-6.0	0	0	0
	6-18	0.0-5.0	5.1-6.0	0	0	0
	18-60	0.0-5.0	5.1-6.0	0	0	0
9D:						
Waldport-------------	0-2	5.0-15	5.1-6.0	0	0	0
	2-6	5.0-10	5.1-6.0	0	0	0
	6-18	0.0-5.0	5.1-6.0	0	0	0
	18-60	0.0-5.0	5.1-6.0	0	0	0
9E:						
Waldport-------------	0-2	5.0-15	5.1-6.0	0	0	0
	2-6	5.0-10	5.1-6.0	0	0	0
	6-18	0.0-5.0	5.1-6.0	0	0	0
	18-60	0.0-5.0	5.1-6.0	0	0	0
10B:						
Waldport, thin surface-------------	0-1	---	3.5-5.5	0	0	0
	1-3	5.0-15	5.1-6.0	0	0	0
	3-60	0.0-5.0	5.1-6.0	0	0	0

Table 26.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Salinity	Sodium adsorption ratio
	In	meq/100 g	pH	Pct	mmhos/cm	
10C:						
Waldport, thin surface	0-1	---	3.5-5.5	0	0	0
	1-3	5.0-15	5.1-6.0	0	0	0
	3-60	0.0-5.0	5.1-6.0	0	0	0
10E:						
Waldport, thin surface	0-1	---	3.5-5.5	0	0	0
	1-3	5.0-15	5.1-6.0	0	0	0
	3-60	0.0-5.0	5.1-6.0	0	0	0
11B:						
Netarts	0-2	---	3.5-5.5	0	0	0
	2-5	5.0-10	3.5-5.0	0	0	0
	5-9	0.0-5.0	3.5-5.5	0	0	0
	9-15	0.0-5.0	3.5-5.5	0	0	0
	15-19	0.0-0.0	4.5-6.0	0	0	0
	19-37	0.0-0.0	4.5-6.0	0	0	0
	37-54	0.0-0.0	4.5-6.0	0	0	0
	54-67	0.0-0.0	5.1-6.0	0	0	0
11C:						
Netarts	0-2	---	3.5-5.5	0	0	0
	2-5	5.0-10	3.5-5.0	0	0	0
	5-9	0.0-5.0	3.5-5.5	0	0	0
	9-15	0.0-5.0	3.5-5.5	0	0	0
	15-19	0.0-0.0	4.5-6.0	0	0	0
	19-37	0.0-0.0	4.5-6.0	0	0	0
	37-54	0.0-0.0	4.5-6.0	0	0	0
	54-67	0.0-0.0	5.1-6.0	0	0	0
11D:						
Netarts	0-2	---	3.5-5.5	0	0	0
	2-5	5.0-10	3.5-5.0	0	0	0
	5-9	0.0-5.0	3.5-5.5	0	0	0
	9-15	0.0-5.0	3.5-5.5	0	0	0
	15-19	0.0-0.0	4.5-6.0	0	0	0
	19-37	0.0-0.0	4.5-6.0	0	0	0
	37-54	0.0-0.0	4.5-6.0	0	0	0
	54-67	0.0-0.0	5.1-6.0	0	0	0
11E:						
Netarts	0-2	---	3.5-5.5	0	0	0
	2-5	5.0-10	3.5-5.0	0	0	0
	5-9	0.0-5.0	3.5-5.5	0	0	0
	9-15	0.0-5.0	3.5-5.5	0	0	0
	15-19	0.0-0.0	4.5-6.0	0	0	0
	19-37	0.0-0.0	4.5-6.0	0	0	0
	37-54	0.0-0.0	4.5-6.0	0	0	0
	54-67	0.0-0.0	5.1-6.0	0	0	0
12B:						
Yaquina	0-1	---	3.5-5.5	0	0	0
	1-7	0.0-10	4.5-5.5	0	0	0
	7-15	0.0-5.0	4.5-6.0	0	0	0
	15-31	0.0-0.0	4.5-6.0	0	0	0
	31-61	0.0-0.0	4.5-6.0	0	0	0

Table 26.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Salinity	Sodium adsorption ratio
	In	meq/100 g	pH	Pct	mmhos/cm	
13B:						
Waldport, thin surface	0-1	---	3.5-5.5	0	0	0
	1-3	5.0-15	5.1-6.0	0	0	0
	3-60	0.0-5.0	5.1-6.0	0	0	0
Heceta	0-1	---	3.5-5.5	0	0	0
	1-6	0.0-15	5.6-6.0	0	0	0
	6-61	0.0-5.0	5.6-6.0	0	0	0
14A:						
Heceta	0-1	---	3.5-5.5	0	0	0
	1-6	0.0-15	5.6-6.0	0	0	0
	6-61	0.0-5.0	5.6-6.0	0	0	0
15B:						
Netarts	0-2	---	3.5-5.5	0	0	0
	2-5	5.0-10	3.5-5.0	0	0	0
	5-9	0.0-5.0	3.5-5.5	0	0	0
	9-15	0.0-5.0	3.5-5.5	0	0	0
	15-19	0.0-0.0	4.5-6.0	0	0	0
	19-37	0.0-0.0	4.5-6.0	0	0	0
	37-54	0.0-0.0	4.5-6.0	0	0	0
	54-67	0.0-0.0	5.1-6.0	0	0	0
Yaquina	0-1	---	3.5-5.5	0	0	0
	1-7	0.0-10	4.5-5.5	0	0	0
	7-15	0.0-5.0	4.5-6.0	0	0	0
	15-31	0.0-0.0	4.5-6.0	0	0	0
	31-61	0.0-0.0	4.5-6.0	0	0	0
16F:						
Caterl	0-1	---	3.5-5.5	0	0	0
	1-6	40-60	4.5-6.0	0	0	0
	6-12	40-60	4.5-6.0	0	0	0
	12-18	40-60	4.5-6.0	0	0	0
	18-35	30-50	4.5-6.0	0	0	0
	35-53	30-50	4.5-6.0	0	0	0
	53-57	---	---	---	---	---
Laderly	0-1	---	3.5-5.5	0	0	0
	1-13	40-60	4.5-5.5	0	0	0
	13-22	30-50	4.5-5.5	0	0	0
	22-30	30-50	4.5-5.5	0	0	0
	30-34	---	---	---	---	---
Murtip	0-1	---	3.5-5.5	0	0	0
	1-7	40-60	4.5-5.5	0	0	0
	7-14	40-60	4.5-5.5	0	0	0
	14-24	30-50	4.5-5.5	0	0	0
	24-43	30-50	4.5-5.5	0	0	0
	43-50	20-30	4.5-5.5	0	0	0
	50-60	---	---	---	---	---
17B:						
Chitwood	0-7	45-55	3.5-6.0	0	0	0
	7-11	35-45	3.5-6.0	0	0	0
	11-19	30-40	3.5-5.5	0	0	0
	19-29	35-45	3.5-5.5	0	0	0
	29-60	30-40	3.5-6.0	0	0	0

Table 26.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Salinity	Sodium adsorption ratio
	In	*meq/100 g*	*pH*	*Pct*	*mmhos/cm*	
17B:						
Hebo------------------	0-4	35-55	3.5-5.5	0	0	0
	4-10	30-50	3.5-5.5	0	0	0
	10-18	35-55	3.5-5.5	0	0	0
	18-26	35-55	3.5-5.5	0	0	0
	26-35	35-55	3.5-5.5	0	0	0
	35-60	30-40	3.5-6.0	0	0	0
18B:						
Chitwood--------------	0-7	45-55	3.5-6.0	0	0	0
	7-11	35-45	3.5-6.0	0	0	0
	11-19	30-40	3.5-5.5	0	0	0
	19-29	35-45	3.5-5.5	0	0	0
	29-60	30-40	3.5-6.0	0	0	0
18C:						
Chitwood--------------	0-7	45-55	3.5-6.0	0	0	0
	7-11	35-45	3.5-6.0	0	0	0
	11-19	30-40	3.5-5.5	0	0	0
	19-29	35-45	3.5-5.5	0	0	0
	29-60	30-40	3.5-6.0	0	0	0
19E:						
Klootchie-------------	0-1	---	3.5-5.5	0	0	0
	1-9	50-70	4.5-5.5	0	0	0
	9-19	50-70	4.5-5.5	0	0	0
	19-44	30-50	4.5-5.5	0	0	0
	44-68	30-50	4.5-5.5	0	0	0
20D:						
Klootchie-------------	0-1	---	3.5-5.5	0	0	0
	1-9	50-70	4.5-5.5	0	0	0
	9-19	50-70	4.5-5.5	0	0	0
	19-44	30-50	4.5-5.5	0	0	0
	44-68	30-50	4.5-5.5	0	0	0
Necanicum-------------	0-1	---	3.5-5.5	0	0	0
	1-10	50-70	4.5-5.5	0	0	0
	10-18	50-70	4.5-5.5	0	0	0
	18-27	30-50	4.5-5.5	0	0	0
	27-49	30-50	4.5-5.5	0	0	0
	49-71	30-50	4.5-5.5	0	0	0
20E:						
Klootchie-------------	0-1	---	3.5-5.5	0	0	0
	1-9	50-70	4.5-5.5	0	0	0
	9-19	50-70	4.5-5.5	0	0	0
	19-44	30-50	4.5-5.5	0	0	0
	44-68	30-50	4.5-5.5	0	0	0
Necanicum-------------	0-1	---	3.5-5.5	0	0	0
	1-10	50-70	4.5-5.5	0	0	0
	10-18	50-70	4.5-5.5	0	0	0
	18-27	30-50	4.5-5.5	0	0	0
	27-49	30-50	4.5-5.5	0	0	0
	49-71	30-50	4.5-5.5	0	0	0

Table 26.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Salinity	Sodium adsorption ratio
	In	*meq/100 g*	*pH*	*Pct*	*mmhos/cm*	
21F:						
Necanicum	0-1	---	3.5-5.5	0	0	0
	1-10	50-70	4.5-5.5	0	0	0
	10-18	50-70	4.5-5.5	0	0	0
	18-27	30-50	4.5-5.5	0	0	0
	27-49	30-50	4.5-5.5	0	0	0
	49-71	30-50	4.5-5.5	0	0	0
Ascar	0-1	---	3.5-5.5	0	0	0
	1-9	50-70	4.5-5.5	0	0	0
	9-25	50-70	4.5-5.5	0	0	0
	25-39	30-50	4.5-5.5	0	0	0
	39-43	---	---	---	---	---
Klootchie	0-1	---	3.5-5.5	0	0	0
	1-9	50-70	4.5-5.5	0	0	0
	9-19	50-70	4.5-5.5	0	0	0
	19-44	30-50	4.5-5.5	0	0	0
	44-68	30-50	4.5-5.5	0	0	0
22F:						
Ascar	0-1	---	3.5-5.5	0	0	0
	1-9	50-70	4.5-5.5	0	0	0
	9-25	50-70	4.5-5.5	0	0	0
	25-39	30-50	4.5-5.5	0	0	0
	39-43	---	---	---	---	---
Necanicum	0-1	---	3.5-5.5	0	0	0
	1-10	50-70	4.5-5.5	0	0	0
	10-18	50-70	4.5-5.5	0	0	0
	18-27	30-50	4.5-5.5	0	0	0
	27-49	30-50	4.5-5.5	0	0	0
	49-71	30-50	4.5-5.5	0	0	0
Rock outcrop	0-60	---	---	---	---	---
23F:						
Rock outcrop	0-60	---	---	---	---	---
Ascar	0-1	---	3.5-5.5	0	0	0
	1-9	50-70	4.5-5.5	0	0	0
	9-25	50-70	4.5-5.5	0	0	0
	25-39	30-50	4.5-5.5	0	0	0
	39-43	---	---	---	---	---
24C:						
Lebam	0-1	---	3.5-5.5	0	0	0
	1-10	50-70	4.5-5.5	0	0	0
	10-18	50-70	4.5-5.5	0	0	0
	18-44	30-50	4.5-5.5	0	0	0
	44-61	30-50	4.5-5.5	0	0	0
	61-76	30-50	4.5-5.5	0	0	0
24D:						
Lebam	0-1	---	3.5-5.5	0	0	0
	1-10	50-70	4.5-5.5	0	0	0
	10-18	50-70	4.5-5.5	0	0	0
	18-44	30-50	4.5-5.5	0	0	0
	44-61	30-50	4.5-5.5	0	0	0
	61-76	30-50	4.5-5.5	0	0	0

Table 26.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Salinity	Sodium adsorption ratio
	In	*meq/100 g*	*pH*	*Pct*	*mmhos/cm*	
25E:						
Lebam----------------	0-1	---	3.5-5.5	0	0	0
	1-10	50-70	4.5-5.5	0	0	0
	10-18	50-70	4.5-5.5	0	0	0
	18-44	30-50	4.5-5.5	0	0	0
	44-61	30-50	4.5-5.5	0	0	0
	61-76	30-50	4.5-5.5	0	0	0
Necanicum------------	0-1	---	3.5-5.5	0	0	0
	1-10	50-70	4.5-5.5	0	0	0
	10-18	50-70	4.5-5.5	0	0	0
	18-27	30-50	4.5-5.5	0	0	0
	27-49	30-50	4.5-5.5	0	0	0
	49-71	30-50	4.5-5.5	0	0	0
26F:						
Lebam----------------	0-1	---	3.5-5.5	0	0	0
	1-10	50-70	4.5-5.5	0	0	0
	10-18	50-70	4.5-5.5	0	0	0
	18-44	30-50	4.5-5.5	0	0	0
	44-61	30-50	4.5-5.5	0	0	0
	61-76	30-50	4.5-5.5	0	0	0
Necanicum------------	0-1	---	3.5-5.5	0	0	0
	1-10	50-70	4.5-5.5	0	0	0
	10-18	50-70	4.5-5.5	0	0	0
	18-27	30-50	4.5-5.5	0	0	0
	27-49	30-50	4.5-5.5	0	0	0
	49-71	30-50	4.5-5.5	0	0	0
28D:						
Templeton------------	0-2	---	3.5-5.5	0	0	0
	2-15	45-55	3.5-5.5	0	0	0
	15-28	15-35	3.5-5.5	0	0	0
	28-43	10-25	3.5-5.5	0	0	0
	43-54	10-25	3.5-5.5	0	0	0
	54-59	10-25	3.5-5.5	0	0	0
	59-69	---	---	---	0	---
Necanicum------------	0-1	---	3.5-5.5	0	0	0
	1-10	50-70	4.5-5.5	0	0	0
	10-18	50-70	4.5-5.5	0	0	0
	18-27	30-50	4.5-5.5	0	0	0
	27-49	30-50	4.5-5.5	0	0	0
	49-71	30-50	4.5-5.5	0	0	0
29D:						
Templeton------------	0-2	---	3.5-5.5	0	0	0
	2-15	45-55	3.5-5.5	0	0	0
	15-28	15-35	3.5-5.5	0	0	0
	28-43	10-25	3.5-5.5	0	0	0
	43-54	10-25	3.5-5.5	0	0	0
	54-59	10-25	3.5-5.5	0	0	0
	59-69	---	---	---	0	---
Klootchie------------	0-1	---	3.5-5.5	0	0	0
	1-9	50-70	4.5-5.5	0	0	0
	9-19	50-70	4.5-5.5	0	0	0
	19-44	30-50	4.5-5.5	0	0	0
	44-68	30-50	4.5-5.5	0	0	0

Table 26.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Salinity	Sodium adsorption ratio
	In	*meq/100 g*	*pH*	*Pct*	*mmhos/cm*	
29E:						
Templeton------------	0-2	---	3.5-5.5	0	0	0
	2-15	45-55	3.5-5.5	0	0	0
	15-28	15-35	3.5-5.5	0	0	0
	28-43	10-25	3.5-5.5	0	0	0
	43-54	10-25	3.5-5.5	0	0	0
	54-59	10-25	3.5-5.5	0	0	0
	59-69	---	---	---	0	---
Klootchie------------	0-1	---	3.5-5.5	0	0	0
	1-9	50-70	4.5-5.5	0	0	0
	9-19	50-70	4.5-5.5	0	0	0
	19-44	30-50	4.5-5.5	0	0	0
	44-68	30-50	4.5-5.5	0	0	0
30D:						
Templeton------------	0-2	---	3.5-5.5	0	0	0
	2-15	45-55	3.5-5.5	0	0	0
	15-28	15-35	3.5-5.5	0	0	0
	28-43	10-25	3.5-5.5	0	0	0
	43-54	10-25	3.5-5.5	0	0	0
	54-59	10-25	3.5-5.5	0	0	0
	59-69	---	---	---	0	---
30E:						
Templeton------------	0-2	---	3.5-5.5	0	0	0
	2-15	45-55	3.5-5.5	0	0	0
	15-28	15-35	3.5-5.5	0	0	0
	28-43	10-25	3.5-5.5	0	0	0
	43-54	10-25	3.5-5.5	0	0	0
	54-59	10-25	3.5-5.5	0	0	0
	59-69	---	---	---	0	---
Ecola----------------	0-3	---	3.5-5.5	0	0	0
	3-12	45-55	3.5-5.5	0	0	0
	12-19	15-30	3.5-5.5	0	0	0
	19-36	10-20	3.5-5.5	0	0	0
	36-46	---	---	---	0	---
30F:						
Templeton------------	0-2	---	3.5-5.5	0	0	0
	2-15	45-55	3.5-5.5	0	0	0
	15-28	15-35	3.5-5.5	0	0	0
	28-43	10-25	3.5-5.5	0	0	0
	43-54	10-25	3.5-5.5	0	0	0
	54-59	10-25	3.5-5.5	0	0	0
	59-69	---	---	---	0	---
Ecola----------------	0-3	---	3.5-5.5	0	0	0
	3-12	45-55	3.5-5.5	0	0	0
	12-19	15-30	3.5-5.5	0	0	0
	19-36	10-20	3.5-5.5	0	0	0
	36-46	---	---	---	0	---

Table 26.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Salinity	Sodium adsorption ratio
	In	*meq/100 g*	*pH*	*Pct*	*mmhos/cm*	
31D:						
Tolovana-------------	0-1	---	3.5-5.5	0	0	0
	1-6	50-70	4.5-5.5	0	0	0
	6-9	50-70	4.5-5.5	0	0	0
	9-20	50-70	4.5-5.5	0	0	0
	20-27	15-20	4.5-5.5	0	0	0
	27-38	15-20	4.5-5.5	0	0	0
	38-48	15-20	4.5-5.5	0	0	0
	48-60	10-20	3.5-5.5	0	0	0
Templeton------------	0-2	---	3.5-5.5	0	0	0
	2-15	45-55	3.5-5.5	0	0	0
	15-28	15-35	3.5-5.5	0	0	0
	28-43	10-25	3.5-5.5	0	0	0
	43-54	10-25	3.5-5.5	0	0	0
	54-59	10-25	3.5-5.5	0	0	0
	59-69	---	---	---	0	---
31E:						
Tolovana-------------	0-1	---	3.5-5.5	0	0	0
	1-6	50-70	4.5-5.5	0	0	0
	6-9	50-70	4.5-5.5	0	0	0
	9-20	50-70	4.5-5.5	0	0	0
	20-27	15-20	4.5-5.5	0	0	0
	27-38	15-20	4.5-5.5	0	0	0
	38-48	15-20	4.5-5.5	0	0	0
	48-60	10-20	3.5-5.5	0	0	0
Templeton------------	0-2	---	3.5-5.5	0	0	0
	2-15	45-55	3.5-5.5	0	0	0
	15-28	15-35	3.5-5.5	0	0	0
	28-43	10-25	3.5-5.5	0	0	0
	43-54	10-25	3.5-5.5	0	0	0
	54-59	10-25	3.5-5.5	0	0	0
	59-69	---	---	---	0	---
32D:						
Munsoncreek----------	0-1	---	3.5-5.5	0	0	0
	1-10	45-55	4.5-5.0	0	0	0
	10-18	15-35	4.5-5.0	0	0	0
	18-28	15-30	4.5-5.0	0	0	0
	28-41	15-25	4.5-5.0	0	0	0
	41-58	15-25	4.5-5.0	0	0	0
	58-68	---	---	---	0	---
Flowerpot------------	0-1	---	3.5-5.5	0	0	0
	1-8	50-70	3.5-5.0	0	0	0
	8-14	20-35	3.5-5.0	0	0	0
	14-22	20-35	3.5-5.0	0	0	0
	22-30	20-25	3.5-5.0	0	0	0
	30-52	20-25	3.5-5.0	0	0	0
	52-60	15-25	3.5-5.0	0	0	0
32E:						
Munsoncreek----------	0-1	---	3.5-5.5	0	0	0
	1-10	45-55	4.5-5.0	0	0	0
	10-18	15-35	4.5-5.0	0	0	0
	18-28	15-30	4.5-5.0	0	0	0
	28-41	15-25	4.5-5.0	0	0	0
	41-58	15-25	4.5-5.0	0	0	0
	58-68	---	---	---	0	---

Table 26.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Salinity	Sodium adsorption ratio
	In	meq/100 g	pH	Pct	mmhos/cm	
32E:						
Templeton------------	0-2	---	3.5-5.5	0	0	0
	2-15	45-55	3.5-5.5	0	0	0
	15-28	15-35	3.5-5.5	0	0	0
	28-43	10-25	3.5-5.5	0	0	0
	43-54	10-25	3.5-5.5	0	0	0
	54-59	10-25	3.5-5.5	0	0	0
	59-69	---	---	---	0	---
33D:						
Tolovana-------------	0-1	---	3.5-5.5	0	0	0
	1-6	50-70	4.5-5.5	0	0	0
	6-9	50-70	4.5-5.5	0	0	0
	9-20	50-70	4.5-5.5	0	0	0
	20-27	15-20	4.5-5.5	0	0	0
	27-38	15-20	4.5-5.5	0	0	0
	38-48	15-20	4.5-5.5	0	0	0
	48-60	10-20	3.5-5.5	0	0	0
37D:						
Templeton------------	0-2	---	3.5-5.5	0	0	0
	2-15	45-55	3.5-5.5	0	0	0
	15-28	15-35	3.5-5.5	0	0	0
	28-43	10-25	3.5-5.5	0	0	0
	43-54	10-25	3.5-5.5	0	0	0
	54-59	10-25	3.5-5.5	0	0	0
	59-69	---	---	---	0	---
Skipanon-------------	0-2	---	3.5-5.5	0	0	0
	2-7	45-55	3.5-5.0	0	0	0
	7-15	20-40	3.5-5.0	0	0	0
	15-29	20-35	3.5-5.0	0	0	0
	29-44	20-35	3.5-5.0	0	0	0
	44-62	20-30	3.5-5.0	0	0	0
37E:						
Templeton------------	0-2	---	3.5-5.5	0	0	0
	2-15	45-55	3.5-5.5	0	0	0
	15-28	15-35	3.5-5.5	0	0	0
	28-43	10-25	3.5-5.5	0	0	0
	43-54	10-25	3.5-5.5	0	0	0
	54-59	10-25	3.5-5.5	0	0	0
	59-69	---	---	---	0	---
Skipanon-------------	0-2	---	3.5-5.5	0	0	0
	2-7	45-55	3.5-5.0	0	0	0
	7-15	20-40	3.5-5.0	0	0	0
	15-29	20-35	3.5-5.0	0	0	0
	29-44	20-35	3.5-5.0	0	0	0
	44-62	20-30	3.5-5.0	0	0	0
38E:						
Templeton------------	0-2	---	3.5-5.5	0	0	0
	2-15	45-55	3.5-5.5	0	0	0
	15-28	15-35	3.5-5.5	0	0	0
	28-43	10-25	3.5-5.5	0	0	0
	43-54	10-25	3.5-5.5	0	0	0
	54-59	10-25	3.5-5.5	0	0	0
	59-69	---	---	---	0	---

Table 26.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Salinity	Sodium adsorption ratio
	In	*meq/100 g*	*pH*	*Pct*	*mmhos/cm*	
38E:						
Necanicum------------	0-1	---	3.5-5.5	0	0	0
	1-10	50-70	4.5-5.5	0	0	0
	10-18	50-70	4.5-5.5	0	0	0
	18-27	30-50	4.5-5.5	0	0	0
	27-49	30-50	4.5-5.5	0	0	0
	49-71	30-50	4.5-5.5	0	0	0
43F:						
Klistan--------------	0-1	---	3.5-5.5	0	0	0
	1-7	40-60	4.5-5.5	0	0	0
	7-14	40-60	4.5-5.5	0	0	0
	14-26	30-50	4.5-5.5	0	0	0
	26-36	30-50	4.5-5.5	0	0	0
	36-44	30-50	4.5-5.5	0	0	0
	44-48	---	---	---	---	---
Harslow--------------	0-1	---	3.5-5.5	0	0	0
	1-7	40-60	4.5-6.0	0	0	0
	7-13	40-60	4.5-6.0	0	0	0
	13-22	30-50	4.5-6.0	0	0	0
	22-37	30-50	4.5-6.0	0	0	0
	37-41	---	---	---	---	---
Hemcross-------------	0-1	---	3.5-5.5	0	0	0
	1-9	40-60	4.5-5.5	0	0	0
	9-20	40-60	4.5-5.5	0	0	0
	20-49	30-50	4.5-5.5	0	0	0
	49-62	30-50	4.5-5.5	0	0	0
44E:						
Klistan--------------	0-1	---	3.5-5.5	0	0	0
	1-7	40-60	4.5-5.5	0	0	0
	7-14	40-60	4.5-5.5	0	0	0
	14-26	30-50	4.5-5.5	0	0	0
	26-36	30-50	4.5-5.5	0	0	0
	36-44	30-50	4.5-5.5	0	0	0
	44-48	---	---	---	---	---
Harslow--------------	0-1	---	3.5-5.5	0	0	0
	1-7	40-60	4.5-6.0	0	0	0
	7-13	40-60	4.5-6.0	0	0	0
	13-22	30-50	4.5-6.0	0	0	0
	22-37	30-50	4.5-6.0	0	0	0
	37-41	---	---	---	---	---
Rock outcrop---------	0-60	---	---	---	---	---
44F:						
Harslow--------------	0-1	---	3.5-5.5	0	0	0
	1-7	40-60	4.5-6.0	0	0	0
	7-13	40-60	4.5-6.0	0	0	0
	13-22	30-50	4.5-6.0	0	0	0
	22-37	30-50	4.5-6.0	0	0	0
	37-41	---	---	---	---	---

Table 26.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Salinity	Sodium adsorption ratio
	In	*meq/100 g*	*pH*	*Pct*	*mmhos/cm*	
44F:						
Klistan--------------	0-1	---	3.5-5.5	0	0	0
	1-7	40-60	4.5-5.5	0	0	0
	7-14	40-60	4.5-5.5	0	0	0
	14-26	30-50	4.5-5.5	0	0	0
	26-36	30-50	4.5-5.5	0	0	0
	36-44	30-50	4.5-5.5	0	0	0
	44-48	---	---	---	0	---
Rock outcrop---------	0-60	---	---	---	---	---
45B:						
Hebo-----------------	0-4	35-55	3.5-5.5	0	0	0
	4-10	30-50	3.5-5.5	0	0	0
	10-18	35-55	3.5-5.5	0	0	0
	18-26	35-55	3.5-5.5	0	0	0
	26-35	35-55	3.5-5.5	0	0	0
	35-60	30-40	3.5-6.0	0	0	0
48D:						
Hemcross-------------	0-1	---	3.5-5.5	0	0	0
	1-9	40-60	4.5-5.5	0	0	0
	9-20	40-60	4.5-5.5	0	0	0
	20-49	30-50	4.5-5.5	0	0	0
	49-62	30-50	4.5-5.5	0	0	0
Klistan--------------	0-1	---	3.5-5.5	0	0	0
	1-7	40-60	4.5-5.5	0	0	0
	7-14	40-60	4.5-5.5	0	0	0
	14-26	30-50	4.5-5.5	0	0	0
	26-36	30-50	4.5-5.5	0	0	0
	36-44	30-50	4.5-5.5	0	0	0
	44-48	---	---	---	---	---
48E:						
Hemcross-------------	0-1	---	3.5-5.5	0	0	0
	1-9	40-60	4.5-5.5	0	0	0
	9-20	40-60	4.5-5.5	0	0	0
	20-49	30-50	4.5-5.5	0	0	0
	49-62	30-50	4.5-5.5	0	0	0
Klistan--------------	0-1	---	3.5-5.5	0	0	0
	1-7	40-60	4.5-5.5	0	0	0
	7-14	40-60	4.5-5.5	0	0	0
	14-26	30-50	4.5-5.5	0	0	0
	26-36	30-50	4.5-5.5	0	0	0
	36-44	30-50	4.5-5.5	0	0	0
	44-48	---	---	---	---	---
50B:						
Walluski-------------	0-2	---	3.5-5.5	0	0	0
	2-13	45-55	3.5-6.0	0	0	0
	13-27	20-40	3.5-5.5	0	0	0
	27-36	20-35	3.5-5.5	0	0	0
	36-62	25-40	3.5-5.5	0	0	0
51B:						
Walluski-------------	0-2	---	3.5-5.5	0	0	0
	2-13	45-55	3.5-6.0	0	0	0
	13-27	20-40	3.5-5.5	0	0	0
	27-36	20-35	3.5-5.5	0	0	0
	36-62	25-40	3.5-5.5	0	0	0

Table 26.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Salinity	Sodium adsorption ratio
	In	meq/100 g	pH	Pct	mmhos/cm	
51B:						
Chitwood-------------	0-7	45-55	3.5-6.0	0	0	0
	7-11	35-45	3.5-6.0	0	0	0
	11-19	30-40	3.5-5.5	0	0	0
	19-29	35-45	3.5-5.5	0	0	0
	29-60	30-40	3.5-6.0	0	0	0
51C:						
Walluski-------------	0-2	---	3.5-5.5	0	0	0
	2-13	45-55	3.5-6.0	0	0	0
	13-27	20-40	3.5-5.5	0	0	0
	27-36	20-35	3.5-5.5	0	0	0
	36-62	25-40	3.5-5.5	0	0	0
Chitwood-------------	0-7	45-55	3.5-6.0	0	0	0
	7-11	35-45	3.5-6.0	0	0	0
	11-19	30-40	3.5-5.5	0	0	0
	19-29	35-45	3.5-5.5	0	0	0
	29-60	30-40	3.5-6.0	0	0	0
54B:						
Knappa---------------	0-9	45-55	3.5-5.5	0	0	0
	9-20	45-55	3.5-5.5	0	0	0
	20-25	20-35	3.5-5.5	0	0	0
	25-45	20-35	3.5-5.5	0	0	0
	45-60	20-35	3.5-5.5	0	0	0
55A:						
Histosols------------	0-7	120-165	5.6-7.3	0	2.0-8.0	0
	7-13	120-165	5.6-7.3	0	2.0-8.0	0
	13-20	120-165	5.6-7.3	0	2.0-8.0	0
	20-32	25-45	5.6-7.3	0	2.0-8.0	0
	32-60	25-45	5.6-7.3	0	2.0-8.0	0
Water----------------	---	---	---	---	---	---
56B:						
Wolfer---------------	0-8	50-70	4.5-6.0	0	0	0
	8-14	50-70	4.5-6.0	0	0	0
	14-22	40-60	4.5-6.0	0	0	0
	22-35	30-50	4.5-6.0	0	0	0
	35-60	5.0-25	4.5-6.0	0	0	0
56C:						
Wolfer---------------	0-8	50-70	4.5-6.0	0	0	0
	8-14	50-70	4.5-6.0	0	0	0
	14-22	40-60	4.5-6.0	0	0	0
	22-35	30-50	4.5-6.0	0	0	0
	35-60	5.0-25	4.5-6.0	0	0	0
57B:						
Condorbridge---------	0-5	35-45	5.1-6.0	0	0	0
	5-12	35-45	5.1-6.0	0	0	0
	12-26	35-45	5.1-6.0	0	0	0
	26-35	10-20	5.1-6.0	0	0	0
	35-53	10-20	5.1-6.0	0	0	0
	53-60	10-20	5.1-6.0	0	0	0

Table 26.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Salinity	Sodium adsorption ratio
	In	*meq/100 g*	*pH*	*Pct*	*mmhos/cm*	
57C:						
Condorbridge---------	0-5	35-45	5.1-6.0	0	0	0
	5-12	35-45	5.1-6.0	0	0	0
	12-26	35-45	5.1-6.0	0	0	0
	26-35	10-20	5.1-6.0	0	0	0
	35-53	10-20	5.1-6.0	0	0	0
	53-60	10-20	5.1-6.0	0	0	0
58C:						
Knappa---------------	0-9	45-55	3.5-5.5	0	0	0
	9-20	45-55	3.5-5.5	0	0	0
	20-25	20-35	3.5-5.5	0	0	0
	25-45	20-35	3.5-5.5	0	0	0
	45-60	20-35	3.5-5.5	0	0	0
59B:						
Chitwood-------------	0-7	45-55	3.5-6.0	0	0	0
	7-11	35-45	3.5-6.0	0	0	0
	11-19	30-40	3.5-5.5	0	0	0
	19-29	35-45	3.5-5.5	0	0	0
	29-60	30-40	3.5-6.0	0	0	0
Knappa---------------	0-9	45-55	3.5-5.5	0	0	0
	9-20	45-55	3.5-5.5	0	0	0
	20-25	20-35	3.5-5.5	0	0	0
	25-45	20-35	3.5-5.5	0	0	0
	45-60	20-35	3.5-5.5	0	0	0
60E:						
Caterl---------------	0-1	---	3.5-5.5	0	0	0
	1-6	40-60	4.5-6.0	0	0	0
	6-12	40-60	4.5-6.0	0	0	0
	12-18	40-60	4.5-6.0	0	0	0
	18-35	30-50	4.5-6.0	0	0	0
	35-53	30-50	4.5-6.0	0	0	0
	53-57	---	---	---	---	---
Laderly--------------	0-1	---	3.5-5.5	0	0	0
	1-13	40-60	4.5-5.5	0	0	0
	13-22	30-50	4.5-5.5	0	0	0
	22-30	30-50	4.5-5.5	0	0	0
	30-34	---	---	---	---	---
Rock outcrop---------	0-60	---	---	---	---	---
60F:						
Laderly--------------	0-1	---	3.5-5.5	0	0	0
	1-13	40-60	4.5-5.5	0	0	0
	13-22	30-50	4.5-5.5	0	0	0
	22-30	30-50	4.5-5.5	0	0	0
	30-34	---	---	---	---	---
Caterl---------------	0-1	---	3.5-5.5	0	0	0
	1-6	40-60	4.5-6.0	0	0	0
	6-12	40-60	4.5-6.0	0	0	0
	12-18	40-60	4.5-6.0	0	0	0
	18-35	30-50	4.5-6.0	0	0	0
	35-53	30-50	4.5-6.0	0	0	0
	53-57	---	---	---	---	---
Rock outcrop---------	0-60	---	---	---	---	---

Table 26.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Salinity	Sodium adsorption ratio
	In	meq/100 g	pH	Pct	mmhos/cm	
61F:						
Laderly, south slopes	0-1	---	3.5-5.5	0	0	0
	1-13	40-60	4.5-5.5	0	0	0
	13-22	30-50	4.5-5.5	0	0	0
	22-30	30-50	4.5-5.5	0	0	0
	30-34	---	---	---	---	---
Rock outcrop, south slopes	0-60	---	---	---	---	---
Caterl, south slopes	0-1	---	3.5-5.5	0	0	0
	1-6	40-60	4.5-6.0	0	0	0
	6-12	40-60	4.5-6.0	0	0	0
	12-18	40-60	4.5-6.0	0	0	0
	18-35	30-50	4.5-6.0	0	0	0
	35-53	30-50	4.5-6.0	0	0	0
	53-57	---	---	---	---	---
62F:						
Rock outcrop	0-60	---	---	---	---	---
Laderly	0-1	---	3.5-5.5	0	0	0
	1-13	40-60	4.5-5.5	0	0	0
	13-22	30-50	4.5-5.5	0	0	0
	22-30	30-50	4.5-5.5	0	0	0
	30-34	---	---	---	---	---
70D:						
Murtip	0-1	---	3.5-5.5	0	0	0
	1-7	40-60	4.5-5.5	0	0	0
	7-14	40-60	4.5-5.5	0	0	0
	14-24	30-50	4.5-5.5	0	0	0
	24-43	30-50	4.5-5.5	0	0	0
	43-50	20-30	4.5-5.5	0	0	0
	50-60	---	---	---	---	---
Caterl	0-1	---	3.5-5.5	0	0	0
	1-6	40-60	4.5-6.0	0	0	0
	6-12	40-60	4.5-6.0	0	0	0
	12-18	40-60	4.5-6.0	0	0	0
	18-35	30-50	4.5-6.0	0	0	0
	35-53	30-50	4.5-6.0	0	0	0
	53-57	---	---	---	---	---
Laderly	0-1	---	3.5-5.5	0	0	0
	1-13	40-60	4.5-5.5	0	0	0
	13-22	30-50	4.5-5.5	0	0	0
	22-30	30-50	4.5-5.5	0	0	0
	30-34	---	---	---	---	---
70E:						
Murtip	0-1	---	3.5-5.5	0	0	0
	1-7	40-60	4.5-5.5	0	0	0
	7-14	40-60	4.5-5.5	0	0	0
	14-24	30-50	4.5-5.5	0	0	0
	24-43	30-50	4.5-5.5	0	0	0
	43-50	20-30	4.5-5.5	0	0	0
	50-60	---	---	---	---	---

Table 26.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Salinity	Sodium adsorption ratio
	In	*meq/100 g*	*pH*	*Pct*	*mmhos/cm*	
70E:						
Caterl	0-1	---	3.5-5.5	0	0	0
	1-6	40-60	4.5-6.0	0	0	0
	6-12	40-60	4.5-6.0	0	0	0
	12-18	40-60	4.5-6.0	0	0	0
	18-35	30-50	4.5-6.0	0	0	0
	35-53	30-50	4.5-6.0	0	0	0
	53-57	---	---	---	---	---
Laderly	0-1	---	3.5-5.5	0	0	0
	1-13	40-60	4.5-5.5	0	0	0
	13-22	30-50	4.5-5.5	0	0	0
	22-30	30-50	4.5-5.5	0	0	0
	30-34	---	---	---	---	---
71D:						
McMille	0-1	---	3.5-5.5	0	0	0
	1-5	35-45	4.5-5.5	0	0	0
	5-14	15-30	4.5-5.5	0	0	0
	14-20	10-20	4.5-5.5	0	0	0
	20-32	10-20	4.5-5.5	0	0	0
	32-45	10-20	4.5-5.5	0	0	0
	45-55	---	---	---	---	---
Mutt	0-1	---	3.5-5.5	0	0	0
	1-4	35-45	4.5-5.5	0	0	0
	4-13	10-20	4.5-5.5	0	0	0
	13-25	10-20	4.5-5.5	0	0	0
	25-35	---	---	---	---	---
72D:						
Caterl, clayey	0-1	---	3.5-5.5	0	0	0
	1-6	40-60	4.5-6.0	0	0	0
	6-12	40-60	4.5-6.0	0	0	0
	12-18	40-60	4.5-6.0	0	0	0
	18-41	30-50	4.5-6.0	0	0	0
	41-53	30-50	4.5-6.0	0	0	0
	53-57	---	---	---	---	---
Murtip, clayey	0-1	---	3.5-5.5	0	0	0
	1-7	40-60	4.5-5.5	0	0	0
	7-14	40-60	4.5-5.5	0	0	0
	14-24	30-50	4.5-5.5	0	0	0
	24-43	30-50	4.5-5.5	0	0	0
	43-50	30-50	4.5-5.5	0	0	0
	50-60	---	---	---	---	---
73A:						
Nehalem, frequent flooding	0-9	15-30	5.1-6.0	0	0	0
	9-16	10-20	5.1-6.0	0	0	0
	16-48	10-25	5.1-6.0	0	0	0
	48-60	5.0-20	5.1-6.0	0	0	0
74A:						
Nehalem, occasional flooding	0-9	15-30	5.1-6.0	0	0	0
	9-16	10-20	5.1-6.0	0	0	0
	16-48	10-25	5.1-6.0	0	0	0
	48-60	5.0-20	5.1-6.0	0	0	0

Table 26.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Salinity	Sodium adsorption ratio
	In	*meq/100 g*	*pH*	*Pct*	*mmhos/cm*	
76A:						
Nestucca-------------	0-6	15-30	5.1-5.5	0	0	0
	6-14	10-20	5.1-5.5	0	0	0
	14-41	10-25	4.5-5.5	0	0	0
	41-60	15-30	4.5-5.5	0	0	0
77A:						
Nestucca-------------	0-6	15-30	5.1-5.5	0	0	0
	6-14	10-20	5.1-5.5	0	0	0
	14-41	10-25	4.5-5.5	0	0	0
	41-60	15-30	4.5-5.5	0	0	0
Brenner--------------	0-7	15-35	5.1-6.0	0	0	0
	7-12	15-35	5.1-5.5	0	0	0
	12-18	10-25	5.1-5.5	0	0	0
	18-26	10-25	5.1-5.5	0	0	0
	26-40	10-25	5.1-5.5	0	0	0
	40-55	15-30	5.6-6.0	0	0	0
	55-60	15-30	5.6-6.0	0	0	0
80B:						
Quillamook-----------	0-8	50-70	4.5-6.0	0	0	0
	8-17	50-70	4.5-6.0	0	0	0
	17-28	40-60	4.5-6.0	0	0	0
	28-47	30-50	4.5-6.0	0	0	0
	47-60	30-50	4.5-6.0	0	0	0
81B:						
Quillamook, gravelly substratum----------	0-9	50-70	4.5-6.0	0	0	0
	9-19	50-70	4.5-6.0	0	0	0
	19-27	40-60	4.5-6.0	0	0	0
	27-39	30-50	4.5-6.0	0	0	0
	39-47	30-50	4.5-6.0	0	0	0
	47-60	5.0-10	4.5-6.0	0	0	0
Quillamook-----------	0-8	50-70	4.5-6.0	0	0	0
	8-17	50-70	4.5-6.0	0	0	0
	17-28	40-60	4.5-6.0	0	0	0
	28-47	30-50	4.5-6.0	0	0	0
	47-60	30-50	4.5-6.0	0	0	0
81C:						
Quillamook, gravelly substratum----------	0-9	50-70	4.5-6.0	0	0	0
	9-19	50-70	4.5-6.0	0	0	0
	19-27	40-60	4.5-6.0	0	0	0
	27-39	30-50	4.5-6.0	0	0	0
	39-47	30-50	4.5-6.0	0	0	0
	47-60	5.0-10	4.5-6.0	0	0	0
Quillamook-----------	0-8	50-70	4.5-6.0	0	0	0
	8-17	50-70	4.5-6.0	0	0	0
	17-28	40-60	4.5-6.0	0	0	0
	28-47	30-50	4.5-6.0	0	0	0
	47-60	30-50	4.5-6.0	0	0	0
89A:						
Udifluvents----------	0-7	5.0-25	4.5-6.0	0	0	0
	7-38	5.0-10	4.5-6.0	0	0	0
	38-60	0.0-10	4.5-6.0	0	0	0

Table 26.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Salinity	Sodium adsorption ratio
	In	*meq/100 g*	*pH*	*Pct*	*mmhos/cm*	
89A:						
Riverwash	0-60	---	---	---	---	---
Water	---	---	---	---	---	---
90A:						
Yachats	0-9	10-25	3.5-6.0	0	0	0
	9-19	5.0-15	5.6-6.0	0	0	0
	19-39	0.0-10	5.6-6.0	0	0	0
	39-54	0.0-10	5.6-6.0	0	0	0
	54-60	0.0-10	5.6-6.0	0	0	0
91A:						
Gauldy	0-10	10-20	4.5-5.5	0	0	0
	10-26	5.0-10	4.5-5.5	0	0	0
	26-38	0.0-5.0	4.5-5.5	0	0	0
	38-55	0.0-5.0	4.5-5.5	0	0	0
	55-60	0.0-2.0	4.5-5.5	0	0	0
92A:						
Yachats	0-9	10-25	3.5-6.0	0	0	0
	9-19	5.0-15	5.6-6.0	0	0	0
	19-39	0.0-10	5.6-6.0	0	0	0
	39-54	0.0-10	5.6-6.0	0	0	0
	54-60	0.0-10	5.6-6.0	0	0	0
Gauldy	0-10	10-20	4.5-5.5	0	0	0
	10-26	5.0-10	4.5-5.5	0	0	0
	26-38	0.0-5.0	4.5-5.5	0	0	0
	38-55	0.0-5.0	4.5-5.5	0	0	0
	55-60	0.0-2.0	4.5-5.5	0	0	0
93B:						
Gauldy, occasional flooding	0-10	10-20	4.5-5.5	0	0	0
	10-26	5.0-10	4.5-5.5	0	0	0
	26-38	0.0-5.0	4.5-5.5	0	0	0
	38-55	0.0-5.0	4.5-5.5	0	0	0
	55-60	0.0-2.0	4.5-5.5	0	0	0
Gauldy, rare flooding	0-10	10-20	4.5-5.5	0	0	0
	10-26	5.0-10	4.5-5.5	0	0	0
	26-38	0.0-5.0	4.5-5.5	0	0	0
	38-55	0.0-5.0	4.5-5.5	0	0	0
	55-60	0.0-2.0	4.5-5.5	0	0	0
94B:						
Ginger	0-8	50-70	4.5-6.0	0	0	0
	8-17	50-70	4.5-6.0	0	0	0
	17-20	30-40	4.5-6.0	0	0	0
	20-28	30-50	4.5-6.0	0	0	0
	28-38	30-50	4.5-6.0	0	0	0
	38-52	30-50	4.5-6.0	0	0	0
	52-60	0.0-15	4.5-6.0	0	0	0
Quillamook	0-8	50-70	4.5-6.0	0	0	0
	8-17	50-70	4.5-6.0	0	0	0
	17-28	40-60	4.5-6.0	0	0	0
	28-47	30-50	4.5-6.0	0	0	0
	47-60	30-50	4.5-6.0	0	0	0
Urban land	---	---	---	---	---	---

Table 26.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Salinity	Sodium adsorption ratio
	In	*meq/100 g*	*pH*	*Pct*	*mmhos/cm*	
95B:						
Urban land	---	---	---	---	---	---
Quillamook	0-8	50-70	4.5-6.0	0	0	0
	8-17	50-70	4.5-6.0	0	0	0
	17-28	40-60	4.5-6.0	0	0	0
	28-47	30-50	4.5-6.0	0	0	0
	47-60	30-50	4.5-6.0	0	0	0
96B:						
Ginger	0-8	50-70	4.5-6.0	0	0	0
	8-17	50-70	4.5-6.0	0	0	0
	17-20	30-40	4.5-6.0	0	0	0
	20-28	30-50	4.5-6.0	0	0	0
	28-38	30-50	4.5-6.0	0	0	0
	38-52	30-50	4.5-6.0	0	0	0
	52-60	0.0-15	4.5-6.0	0	0	0
Hebo	0-4	35-55	3.5-5.5	0	0	0
	4-10	30-50	3.5-5.5	0	0	0
	10-18	35-55	3.5-5.5	0	0	0
	18-26	35-55	3.5-5.5	0	0	0
	26-35	35-55	3.5-5.5	0	0	0
	35-60	30-40	3.5-6.0	0	0	0
99:						
Beaches	0-60	---	---	---	---	---
100B:						
Urban land	---	---	---	---	---	---
Udorthents	0-2	5.0-60	3.5-6.0	0	0	0
	2-60	4.0-55	3.5-6.0	0	0	0
101B:						
Urban land, flooded	---	---	---	---	---	---
Udorthents, flooded	0-2	5.0-60	3.5-6.0	0	0	0
	2-60	4.0-55	3.5-6.0	0	0	0
102A:						
Fluvaquents, diked	0-4	10-30	3.5-6.0	0	0.0-4.0	0
	4-7	10-30	5.6-7.3	0	0.0-4.0	0
	7-22	10-35	5.6-7.3	0	2.0-8.0	0
	22-25	10-35	5.6-7.3	0	2.0-8.0	0
	25-45	10-35	5.6-7.3	0	2.0-8.0	0
	45-60	5.0-35	5.6-7.3	0	2.0-8.0	0
Histosols, diked	0-7	120-165	3.5-6.0	0	2.0-8.0	0
	7-13	120-165	5.6-7.3	0	2.0-8.0	0
	13-20	120-165	5.6-7.3	0	2.0-8.0	0
	20-32	25-45	5.6-7.3	0	2.0-8.0	0
	32-60	25-45	5.6-7.3	0	2.0-8.0	0
103A:						
Coquille, diked	0-6	15-35	3.5-5.5	0	0.0-2.0	0
	6-14	15-30	5.6-7.3	0	0.0-2.0	0
	14-34	15-30	5.6-7.3	0	0.0-2.0	0
	34-49	15-30	5.6-7.3	0	0.0-2.0	0
	49-60	15-30	5.6-7.3	0	0.0-4.0	0

Table 26.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Salinity	Sodium adsorption ratio
	In	*meq/100 g*	*pH*	*Pct*	*mmhos/cm*	
104A:						
Coquille, protected--	0-6	15-35	3.5-5.0	0	0.0-2.0	0
	6-14	15-30	4.5-5.5	0	0.0-2.0	0
	14-34	15-30	4.5-7.3	0	0.0-2.0	0
	34-49	15-30	4.5-7.3	0	0.0-2.0	0
	49-60	15-30	4.5-7.3	0	0.0-4.0	0
Brenner, protected---	0-7	15-35	3.5-5.0	0	0	0
	7-12	15-35	3.5-5.0	0	0	0
	12-18	10-25	3.5-5.0	0	0	0
	18-26	10-25	3.5-5.0	0	0	0
	26-40	10-25	3.5-5.0	0	0	0
	40-55	15-30	3.5-5.0	0	0	0
	55-60	15-30	3.5-5.0	0	0	0
Nehalem, protected---	0-9	15-30	4.5-5.0	0	0	0
	9-16	10-20	4.5-5.0	0	0	0
	16-48	10-25	4.5-5.0	0	0	0
	48-60	5.0-20	4.5-5.0	0	0	0
110F:						
Waldport, thin surface-------------	0-1	---	3.5-5.5	0	0	0
	1-3	5.0-15	5.1-6.0	0	0	0
	3-60	0.0-5.0	5.1-6.0	0	0	0
115A:						
Aquepts--------------	0-3	20-55	4.5-6.0	0	0	0
	3-9	10-30	4.5-6.0	0	0	0
	9-20	10-30	4.5-6.0	0	0	0
	20-60	10-30	4.5-6.0	0	0	0
116A:						
Aquepts, warm--------	0-9	20-55	5.1-6.0	0	0	0
	9-20	10-30	5.1-6.0	0	0	0
	20-43	10-30	5.1-6.0	0	0	0
	43-60	10-30	5.1-6.0	0	0	0
118B:						
Oxyaquic Hapludands, flood plains--------	0-1	---	3.5-5.5	0	0	0
	1-20	40-60	5.1-6.0	0	0	0
	20-25	5.0-30	5.1-6.0	0	0	0
	25-38	0.0-10	5.1-6.0	0	0	0
	38-61	0.0-10	5.1-6.0	0	0	0
Alic Hapludands, terraces------------	0-1	---	3.5-5.5	0	0	0
	1-13	40-60	5.1-6.0	0	0	0
	13-23	40-60	5.1-6.0	0	0	0
	23-37	30-50	5.1-6.0	0	0	0
	37-61	0.0-10	5.1-6.0	0	0	0
119B:						
Oxyaquic Fulvudands, flood plains--------	0-19	50-70	4.5-6.0	0	0.0-2.0	0
	19-26	5.0-30	4.5-6.0	0	0.0-2.0	0
	26-60	0.0-30	4.5-6.0	0	0.0-2.0	0

Table 26.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Salinity	Sodium adsorption ratio
	In	*meq/100 g*	*pH*	*Pct*	*mmhos/cm*	
119B:						
Typic Fulvudands,						
terraces------------	0-1	---	3.5-5.5	0	0	0
	1-8	50-70	4.5-6.0	0	0	0
	8-21	50-70	4.5-6.0	0	0	0
	21-35	30-50	4.5-6.0	0	0	0
	35-45	30-50	4.5-6.0	0	0	0
	45-53	5.0-30	4.5-6.0	0	0	0
	53-61	0.0-30	4.5-6.0	0	0	0
120C:						
Alic Hapludands,						
terraces------------	0-1	---	3.5-5.5	0	0	0
	1-13	40-60	5.1-6.0	0	0	0
	13-23	40-60	5.1-6.0	0	0	0
	23-37	30-50	5.1-6.0	0	0	0
	37-61	0.0-10	5.1-6.0	0	0	0
Alic Hapludands, fans	0-1	---	3.5-5.5	0	0	0
	1-11	40-60	5.1-6.0	0	0	0
	11-23	30-50	5.1-6.0	0	0	0
	23-45	30-50	5.1-6.0	0	0	0
	45-61	30-50	5.1-6.0	0	0	0
121D:						
Fendall--------------	0-8	45-55	4.5-5.0	0	0	0
	8-13	25-40	4.5-5.0	0	0	0
	13-17	25-40	4.5-5.0	0	0	0
	17-27	30-45	4.5-5.0	0	0	0
	27-34	30-45	4.5-5.0	0	0	0
	34-44	---	---	---	---	---
Munsoncreek----------	0-1	---	3.5-5.5	0	0	0
	1-10	45-55	4.5-5.0	0	0	0
	10-18	15-35	4.5-5.0	0	0	0
	18-28	15-30	4.5-5.0	0	0	0
	28-41	15-25	4.5-5.0	0	0	0
	41-58	15-25	4.5-5.0	0	0	0
	58-68	---	---	---	0	---
125B:						
Siletz---------------	0-9	50-70	4.5-6.0	0	0	0
	9-19	50-70	4.5-6.0	0	0	0
	19-32	10-40	4.5-6.0	0	0	0
	32-41	10-35	4.5-6.0	0	0	0
	41-52	10-15	4.5-6.0	0	0	0
	52-60	4.0-10	4.5-6.0	0	0	0
126B:						
Siletz, warm---------	0-9	50-70	4.5-6.0	0	0	0
	9-19	50-70	4.5-6.0	0	0	0
	19-32	10-40	4.5-6.0	0	0	0
	32-41	10-35	4.5-6.0	0	0	0
	41-52	10-15	4.5-6.0	0	0	0
	52-60	4.0-10	4.5-6.0	0	0	0

Table 26.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Salinity	Sodium adsorption ratio
	In	meq/100 g	pH	Pct	mmhos/cm	
127C:						
Condorbridge, warm---	0-5	35-45	5.1-6.0	0	0	0
	5-12	35-45	5.1-6.0	0	0	0
	12-26	35-45	5.1-6.0	0	0	0
	26-35	10-20	5.1-6.0	0	0	0
	35-53	10-20	5.1-6.0	0	0	0
	53-60	10-20	5.1-6.0	0	0	0
128B:						
Siletz---------------	0-9	50-70	4.5-6.0	0	0	0
	9-19	50-70	4.5-6.0	0	0	0
	19-32	10-40	4.5-6.0	0	0	0
	32-41	10-35	4.5-6.0	0	0	0
	41-52	10-15	4.5-6.0	0	0	0
	52-60	4.0-10	4.5-6.0	0	0	0
Wolfer---------------	0-8	50-70	4.5-6.0	0	0	0
	8-14	50-70	4.5-6.0	0	0	0
	14-22	40-60	4.5-6.0	0	0	0
	22-35	30-50	4.5-6.0	0	0	0
	35-60	5.0-25	4.5-6.0	0	0	0
144F:						
Harslow, south slopes	0-1	---	3.5-5.5	0	0	0
	1-7	40-60	4.5-6.0	0	0	0
	7-13	40-60	4.5-6.0	0	0	0
	13-22	30-50	4.5-6.0	0	0	0
	22-37	30-50	4.5-6.0	0	0	0
	37-41	---	---	---	---	---
Rock outcrop, south slopes--------------	0-60	---	---	---	---	---
Klistan, south slopes	0-1	---	3.5-5.5	0	0	0
	1-7	40-60	4.5-5.5	0	0	0
	7-14	40-60	4.5-5.5	0	0	0
	14-26	30-50	4.5-5.5	0	0	0
	26-36	30-50	4.5-5.5	0	0	0
	36-44	30-50	4.5-5.5	0	0	0
	44-48	---	---	---	---	---
145F:						
Rock outcrop---------	0-60	---	---	---	---	---
Harslow--------------	0-1	---	3.5-5.5	0	0	0
	1-7	40-60	4.5-6.0	0	0	0
	7-13	40-60	4.5-6.0	0	0	0
	13-22	30-50	4.5-6.0	0	0	0
	22-37	30-50	4.5-6.0	0	0	0
	37-41	---	---	---	---	---
156F:						
Sevencedars----------	0-1	---	3.5-5.5	0	0	0
	1-6	40-60	5.1-6.0	0	0	0
	6-13	40-60	5.1-6.0	0	0	0
	13-28	30-50	4.5-5.5	0	0	0
	28-53	30-50	4.5-5.5	0	0	0
	53-68	30-50	4.5-5.5	0	0	0

Table 26.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Salinity	Sodium adsorption ratio
	In	meq/100 g	pH	Pct	mmhos/cm	
156F:						
Newanna	0-1	---	3.5-5.5	0	0	0
	1-11	40-60	4.5-5.5	0	0	0
	11-32	30-50	4.5-5.5	0	0	0
	32-38	30-50	4.5-5.5	0	0	0
	38-42	---	---	---	---	---
157D:						
Caterl, till substratum	0-1	---	3.5-5.5	0	0	0
	1-5	40-60	4.5-5.5	0	0	0
	5-17	40-60	4.5-5.5	0	0	0
	17-42	30-50	4.5-5.5	0	0	0
	42-62	20-30	4.5-5.5	0	0	0
157E:						
Caterl, till substratum	0-1	---	3.5-5.5	0	0	0
	1-5	40-60	4.5-5.5	0	0	0
	5-17	40-60	4.5-5.5	0	0	0
	17-42	30-50	4.5-5.5	0	0	0
	42-62	20-30	4.5-5.5	0	0	0
157F:						
Caterl, till substratum	0-1	---	3.5-5.5	0	0	0
	1-5	40-60	4.5-5.5	0	0	0
	5-17	40-60	4.5-5.5	0	0	0
	17-42	30-50	4.5-5.5	0	0	0
	42-62	20-30	4.5-5.5	0	0	0
158D:						
Sevencedars, till substratum	0-1	---	3.5-5.5	0	0	0
	1-6	40-60	5.1-6.0	0	0	0
	6-13	40-60	5.1-6.0	0	0	0
	13-28	30-50	4.5-5.5	0	0	0
	28-53	30-50	4.5-5.5	0	0	0
	53-68	30-50	4.5-5.5	0	0	0
158E:						
Sevencedars, till substratum	0-1	---	3.5-5.5	0	0	0
	1-6	40-60	5.1-6.0	0	0	0
	6-13	40-60	5.1-6.0	0	0	0
	13-28	30-50	4.5-5.5	0	0	0
	28-53	30-50	4.5-5.5	0	0	0
	53-68	30-50	4.5-5.5	0	0	0
158F:						
Sevencedars, till substratum	0-1	---	3.5-5.5	0	0	0
	1-6	40-60	5.1-6.0	0	0	0
	6-13	40-60	5.1-6.0	0	0	0
	13-28	30-50	4.5-5.5	0	0	0
	28-53	30-50	4.5-5.5	0	0	0
	53-68	30-50	4.5-5.5	0	0	0

Table 26.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Salinity	Sodium adsorption ratio
	In	meq/100 g	pH	Pct	mmhos/cm	
159D:						
Sevencedars, clayey--	0-1	---	3.5-5.5	0	0	0
	1-6	40-60	4.5-6.0	0	0	0
	6-13	40-60	4.5-6.0	0	0	0
	13-28	30-50	4.5-6.0	0	0	0
	28-53	30-50	4.5-6.0	0	0	0
	53-68	30-50	4.5-6.0	0	0	0
161D:						
Sevencedars----------	0-1	---	3.5-5.5	0	0	0
	1-6	40-60	5.1-6.0	0	0	0
	6-13	40-60	5.1-6.0	0	0	0
	13-28	30-50	4.5-5.5	0	0	0
	28-53	30-50	4.5-5.5	0	0	0
	53-68	30-50	4.5-5.5	0	0	0
Newanna--------------	0-1	---	3.5-5.5	0	0	0
	1-11	40-60	4.5-5.5	0	0	0
	11-32	30-50	4.5-5.5	0	0	0
	32-38	30-50	4.5-5.5	0	0	0
	38-42	---	---	---	---	---
Woodspoint-----------	0-1	---	3.5-5.5	0	0	0
	1-7	40-60	5.1-6.0	0	0	0
	7-19	40-60	5.1-6.0	0	0	0
	19-29	30-50	4.5-5.5	0	0	0
	29-38	30-50	4.5-5.5	0	0	0
	38-49	30-50	4.5-5.5	0	0	0
	49-53	---	---	---	---	---
161E:						
Sevencedars----------	0-1	---	3.5-5.5	0	0	0
	1-6	40-60	5.1-6.0	0	0	0
	6-13	40-60	5.1-6.0	0	0	0
	13-28	30-50	4.5-5.5	0	0	0
	28-53	30-50	4.5-5.5	0	0	0
	53-68	30-50	4.5-5.5	0	0	0
Newanna--------------	0-1	---	3.5-5.5	0	0	0
	1-11	40-60	4.5-5.5	0	0	0
	11-32	30-50	4.5-5.5	0	0	0
	32-38	30-50	4.5-5.5	0	0	0
	38-42	---	---	---	---	---
Woodspoint-----------	0-1	---	3.5-5.5	0	0	0
	1-7	40-60	5.1-6.0	0	0	0
	7-19	40-60	5.1-6.0	0	0	0
	19-29	30-50	4.5-5.5	0	0	0
	29-38	30-50	4.5-5.5	0	0	0
	38-49	30-50	4.5-5.5	0	0	0
	49-53	---	---	---	---	---
161F:						
Newanna--------------	0-1	---	3.5-5.5	0	0	0
	1-11	40-60	4.5-5.5	0	0	0
	11-32	30-50	4.5-5.5	0	0	0
	32-38	30-50	4.5-5.5	0	0	0
	38-42	---	---	---	---	---

Table 26.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Salinity	Sodium adsorption ratio
	In	*meq/100 g*	*pH*	*Pct*	*mmhos/cm*	
161F:						
Sevencedars----------	0-1	---	3.5-5.5	0	0	0
	1-6	40-60	5.1-6.0	0	0	0
	6-13	40-60	5.1-6.0	0	0	0
	13-28	30-50	4.5-5.5	0	0	0
	28-53	30-50	4.5-5.5	0	0	0
	53-68	30-50	4.5-5.5	0	0	0
Rock outcrop---------	0-60	---	---	---	---	---
162D:						
Mosscreek------------	0-2	---	3.5-5.5	0	0	0
	2-15	50-70	4.5-5.5	0	0	0
	15-27	50-70	4.5-5.5	0	0	0
	27-57	30-50	4.5-5.5	0	0	0
	57-65	30-50	4.5-5.5	0	0	0
Fawceter-------------	0-1	---	3.5-5.5	0	0	0
	1-11	50-70	4.5-5.5	0	0	0
	11-29	50-70	4.5-5.5	0	0	0
	29-41	30-50	4.5-5.5	0	0	0
	41-57	30-50	4.5-5.5	0	0	0
	57-61	---	---	---	---	---
162E:						
Mosscreek------------	0-2	---	3.5-5.5	0	0	0
	2-15	50-70	4.5-5.5	0	0	0
	15-27	50-70	4.5-5.5	0	0	0
	27-57	30-50	4.5-5.5	0	0	0
	57-65	30-50	4.5-5.5	0	0	0
Fawceter-------------	0-1	---	3.5-5.5	0	0	0
	1-11	50-70	4.5-5.5	0	0	0
	11-29	50-70	4.5-5.5	0	0	0
	29-41	30-50	4.5-5.5	0	0	0
	41-57	30-50	4.5-5.5	0	0	0
	57-61	---	---	---	---	---
163F:						
Fawceter-------------	0-1	---	3.5-5.5	0	0	0
	1-11	50-70	4.5-5.5	0	0	0
	11-29	50-70	4.5-5.5	0	0	0
	29-41	30-50	4.5-5.5	0	0	0
	41-57	30-50	4.5-5.5	0	0	0
	57-61	---	---	---	---	---
Killam---------------	0-2	---	3.5-5.5	0	0	0
	2-14	50-70	4.5-5.5	0	0	0
	14-23	50-70	4.5-5.5	0	0	0
	23-31	30-50	4.5-5.5	0	0	0
	31-35	---	---	---	---	---
Mosscreek------------	0-2	---	3.5-5.5	0	0	0
	2-15	50-70	4.5-5.5	0	0	0
	15-27	50-70	4.5-5.5	0	0	0
	27-57	30-50	4.5-5.5	0	0	0
	57-65	30-50	4.5-5.5	0	0	0

Table 26.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Salinity	Sodium adsorption ratio
	In	*meq/100 g*	*pH*	*Pct*	*mmhos/cm*	
164F:						
Killam	0-2	---	3.5-5.5	0	0	0
	2-14	50-70	4.5-5.5	0	0	0
	14-23	50-70	4.5-5.5	0	0	0
	23-31	30-50	4.5-5.5	0	0	0
	31-35	---	---	---	---	---
Fawceter	0-1	---	3.5-5.5	0	0	0
	1-11	50-70	4.5-5.5	0	0	0
	11-29	50-70	4.5-5.5	0	0	0
	29-41	30-50	4.5-5.5	0	0	0
	41-57	30-50	4.5-5.5	0	0	0
	57-61	---	---	---	---	---
Rock outcrop	0-60	---	---	---	---	---
166F:						
Rock outcrop	0-60	---	---	---	---	---
Killam	0-2	---	3.5-5.5	0	0	0
	2-14	50-70	4.5-5.5	0	0	0
	14-23	50-70	4.5-5.5	0	0	0
	23-31	30-50	4.5-5.5	0	0	0
	31-35	---	---	---	---	---
170A:						
Logsden	0-8	25-40	4.5-5.5	0	0	0
	8-17	20-30	4.5-5.5	0	0	0
	17-37	20-35	4.5-5.5	0	0	0
	37-60	20-35	4.5-5.5	0	0	0
170B:						
Logsden	0-8	25-40	4.5-5.5	0	0	0
	8-17	20-30	4.5-5.5	0	0	0
	17-37	20-35	4.5-5.5	0	0	0
	37-60	20-35	4.5-5.5	0	0	0
Nehalem, occasional flooding	0-9	15-30	5.1-6.0	0	0	0
	9-16	10-20	5.1-6.0	0	0	0
	16-48	10-25	5.1-6.0	0	0	0
	48-60	5.0-20	5.1-6.0	0	0	0
173B:						
Tillamook	0-8	50-70	4.5-6.0	0	0	0
	8-20	50-70	4.5-6.0	0	0	0
	20-25	40-60	4.5-6.0	0	0	0
	25-35	25-35	4.5-6.0	0	0	0
	35-52	25-35	4.5-6.0	0	0	0
	52-60	25-30	4.5-6.0	0	0	0
Ginger	0-8	50-70	4.5-6.0	0	0	0
	8-17	50-70	4.5-6.0	0	0	0
	17-20	30-40	4.5-6.0	0	0	0
	20-28	30-50	4.5-6.0	0	0	0
	28-38	30-50	4.5-6.0	0	0	0
	38-52	30-50	4.5-6.0	0	0	0
	52-60	0.0-15	4.5-6.0	0	0	0

Table 26.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Salinity	Sodium adsorption ratio
	In	*meq/100 g*	*pH*	*Pct*	*mmhos/cm*	
173C:						
Tillamook------------	0-8	50-70	4.5-6.0	0	0	0
	8-20	50-70	4.5-6.0	0	0	0
	20-25	40-60	4.5-6.0	0	0	0
	25-35	25-35	4.5-6.0	0	0	0
	35-52	25-35	4.5-6.0	0	0	0
	52-60	25-30	4.5-6.0	0	0	0
Ginger---------------	0-8	50-70	4.5-6.0	0	0	0
	8-17	50-70	4.5-6.0	0	0	0
	17-20	30-40	4.5-6.0	0	0	0
	20-28	30-50	4.5-6.0	0	0	0
	28-38	30-50	4.5-6.0	0	0	0
	38-52	30-50	4.5-6.0	0	0	0
	52-60	0.0-15	4.5-6.0	0	0	0
174C:						
Typic Fulvudands, terraces------------	0-1	---	3.5-5.5	0	0	0
	1-8	50-70	4.5-6.0	0	0	0
	8-21	50-70	4.5-6.0	0	0	0
	21-35	30-50	4.5-6.0	0	0	0
	35-45	30-50	4.5-6.0	0	0	0
	45-53	5.0-30	4.5-6.0	0	0	0
	53-61	0.0-30	4.5-6.0	0	0	0
Typic Fulvudands, fans----------------	0-1	---	3.5-5.5	0	0	0
	1-14	50-70	4.5-6.0	0	0	0
	14-34	30-50	4.5-6.0	0	0	0
	34-48	30-50	4.5-6.0	0	0	0
	48-61	30-50	4.5-6.0	0	0	0
175D:						
Astoria--------------	0-1	---	3.5-5.5	0	0	0
	1-8	35-45	3.5-5.0	0	0	0
	8-12	20-35	3.5-5.0	0	0	0
	12-25	30-45	3.5-5.0	0	0	0
	25-37	30-45	3.5-5.0	0	0	0
	37-51	25-35	3.5-5.0	0	0	0
	51-61	---	---	---	---	---
176D:						
Preacher-------------	0-2	---	3.5-5.5	0	0	0
	2-13	35-45	3.5-5.5	0	0	0
	13-21	20-35	3.5-5.5	0	0	0
	21-38	20-30	3.5-5.5	0	0	0
	38-52	10-30	3.5-5.5	0	0	0
	52-62	---	---	---	---	---
Bohannon-------------	0-1	---	3.5-5.5	0	0	0
	1-13	35-45	3.5-5.5	0	0	0
	13-26	20-35	3.5-5.5	0	0	0
	26-38	20-30	3.5-5.5	0	0	0
	38-48	---	---	---	---	---
176E:						
Preacher-------------	0-2	---	3.5-5.5	0	0	0
	2-13	35-45	3.5-5.5	0	0	0
	13-21	20-35	3.5-5.5	0	0	0
	21-38	20-30	3.5-5.5	0	0	0
	38-52	10-30	3.5-5.5	0	0	0
	52-62	---	---	---	---	---

Table 26.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Salinity	Sodium adsorption ratio
	In	*meq/100 g*	*pH*	*Pct*	*mmhos/cm*	
176E:						
Bohannon-------------	0-1	---	3.5-5.5	0	0	0
	1-13	35-45	3.5-5.5	0	0	0
	13-26	20-35	3.5-5.5	0	0	0
	26-38	20-30	3.5-5.5	0	0	0
	38-48	---	---	---	---	---
177B:						
Dystrudepts----------	0-1	---	3.5-5.5	0	0	0
	1-6	20-40	3.5-5.5	0	0	0
	6-22	15-30	3.5-5.5	0	0	0
	22-31	15-35	3.5-5.5	0	0	0
	31-39	15-40	3.5-5.5	0	0	0
	39-49	10-35	3.5-5.5	0	0	0
	49-61	10-30	3.5-5.5	0	0	0
Aquepts--------------	0-6	15-35	4.5-6.5	0	0	0
	6-18	15-35	4.5-6.5	0	0	0
	18-31	15-35	4.5-6.5	0	0	0
	31-51	15-35	4.5-6.5	0	0	0
	51-60	5.0-35	4.5-6.5	0	0	0
178B:						
Fluventic Humic Dystrudepts---------	0-1	---	3.5-5.5	0	0	0
	1-11	15-35	4.5-6.0	0	0	0
	11-35	10-20	4.5-6.0	0	0	0
	35-40	10-20	4.5-6.0	0	0	0
	40-61	5.0-20	4.5-6.0	0	0	0
Dystrudepts----------	0-12	15-35	4.5-6.0	0	0	0
	12-35	10-30	4.5-6.0	0	0	0
	35-45	10-30	4.5-6.0	0	0	0
	45-63	5.0-25	4.5-6.0	0	0	0
Aquepts--------------	0-8	15-35	4.5-6.0	0	0	0
	8-20	10-25	4.5-6.0	0	0	0
	20-60	5.0-25	4.5-6.0	0	0	0
180D:						
Salander-------------	0-2	---	3.5-5.5	0	0	0
	2-14	50-70	4.5-5.0	0	0	0
	14-25	50-70	4.5-5.0	0	0	0
	25-41	30-50	4.5-5.0	0	0	0
	41-52	30-50	4.5-5.0	0	0	0
	52-66	30-50	4.5-5.0	0	0	0
180E:						
Salander-------------	0-2	---	3.5-5.5	0	0	0
	2-14	50-70	4.5-5.0	0	0	0
	14-25	50-70	4.5-5.0	0	0	0
	25-41	30-50	4.5-5.0	0	0	0
	41-52	30-50	4.5-5.0	0	0	0
	52-66	30-50	4.5-5.0	0	0	0
Necanicum------------	0-1	---	3.5-5.5	0	0	0
	1-10	50-70	4.5-5.5	0	0	0
	10-18	50-70	4.5-5.5	0	0	0
	18-27	30-50	4.5-5.5	0	0	0
	27-49	30-50	4.5-5.5	0	0	0
	49-71	30-50	4.5-5.5	0	0	0

Table 26.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Salinity	Sodium adsorption ratio
	In	*meq/100 g*	*pH*	*Pct*	*mmhos/cm*	
180F:						
Salander-------------	0-2	---	3.5-5.5	0	0	0
	2-14	50-70	4.5-5.0	0	0	0
	14-25	50-70	4.5-5.0	0	0	0
	25-41	30-50	4.5-5.0	0	0	0
	41-52	30-50	4.5-5.0	0	0	0
	52-66	30-50	4.5-5.0	0	0	0
Necanicum------------	0-1	---	3.5-5.5	0	0	0
	1-10	50-70	4.5-5.5	0	0	0
	10-18	50-70	4.5-5.5	0	0	0
	18-27	30-50	4.5-5.5	0	0	0
	27-49	30-50	4.5-5.5	0	0	0
	49-71	30-50	4.5-5.5	0	0	0
Neskowin-------------	0-2	---	3.5-5.5	0	0	0
	2-8	50-70	4.5-5.0	0	0	0
	8-15	30-50	4.5-5.0	0	0	0
	15-28	30-50	4.5-5.0	0	0	0
	28-32	---	---	---	---	---
181E:						
Neskowin-------------	0-2	---	3.5-5.5	0	0	0
	2-8	50-70	4.5-5.0	0	0	0
	8-15	30-50	4.5-5.0	0	0	0
	15-28	30-50	4.5-5.0	0	0	0
	28-32	---	---	---	---	---
Salander-------------	0-2	---	3.5-5.5	0	0	0
	2-14	50-70	4.5-5.0	0	0	0
	14-25	50-70	4.5-5.0	0	0	0
	25-41	30-50	4.5-5.0	0	0	0
	41-52	30-50	4.5-5.0	0	0	0
	52-66	30-50	4.5-5.0	0	0	0
181F:						
Neskowin-------------	0-2	---	3.5-5.5	0	0	0
	2-8	50-70	4.5-5.0	0	0	0
	8-15	30-50	4.5-5.0	0	0	0
	15-28	30-50	4.5-5.0	0	0	0
	28-32	---	---	---	---	---
Rock outcrop---------	0-60	---	---	---	---	---
Necanicum------------	0-1	---	3.5-5.5	0	0	0
	1-10	50-70	4.5-5.5	0	0	0
	10-18	50-70	4.5-5.5	0	0	0
	18-27	30-50	4.5-5.5	0	0	0
	27-49	30-50	4.5-5.5	0	0	0
	49-71	30-50	4.5-5.5	0	0	0
182D:						
Neotsu---------------	0-3	---	3.5-5.5	0	0	0
	3-9	50-70	3.5-5.0	0	0	0
	9-20	50-70	3.5-5.0	0	0	0
	20-32	30-50	3.5-5.0	0	0	0
	32-42	---	---	---	---	---

Table 26.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Salinity	Sodium adsorption ratio
	In	*meq/100 g*	*pH*	*Pct*	*mmhos/cm*	
182D:						
Salander-------------	0-2	---	3.5-5.5	0	0	0
	2-14	50-70	4.5-5.0	0	0	0
	14-25	50-70	4.5-5.0	0	0	0
	25-41	30-50	4.5-5.0	0	0	0
	41-52	30-50	4.5-5.0	0	0	0
	52-66	30-50	4.5-5.0	0	0	0
183D:						
Winema---------------	0-10	50-70	4.5-5.5	0	0	0
	10-21	50-70	4.5-5.5	0	0	0
	21-28	25-35	4.5-5.0	0	0	0
	28-42	30-45	4.5-5.0	0	0	0
	42-60	30-45	4.5-5.0	0	0	0
Fendall--------------	0-8	45-55	4.5-5.0	0	0	0
	8-13	25-40	4.5-5.0	0	0	0
	13-17	25-40	4.5-5.0	0	0	0
	17-27	30-45	4.5-5.0	0	0	0
	27-34	30-45	4.5-5.0	0	0	0
	34-44	---	---	---	---	---
185F:						
Udorthents, steep----	0-1	---	3.5-5.5	0	0	0
	1-4	4.0-15	3.5-5.5	0	0	0
	4-23	4.0-15	3.5-5.5	0	0	0
	23-33	---	---	---	---	---
Rock outcrop---------	0-60	---	---	---	---	---
190D:						
Mulkey---------------	0-10	40-60	3.5-5.0	0	0	0
	10-19	40-60	3.5-5.0	0	0	0
	19-26	30-50	4.5-5.5	0	0	0
	26-30	---	---	---	---	---
191B:						
Siletz---------------	0-9	50-70	4.5-6.0	0	0	0
	9-19	50-70	4.5-6.0	0	0	0
	19-32	10-40	4.5-6.0	0	0	0
	32-41	10-35	4.5-6.0	0	0	0
	41-52	10-15	4.5-6.0	0	0	0
	52-60	4.0-10	4.5-6.0	0	0	0
Euchre---------------	0-8	50-70	3.5-6.0	0	0	0
	8-14	50-70	3.5-6.0	0	0	0
	14-24	25-40	3.5-5.5	0	0	0
	24-39	25-35	3.5-5.5	0	0	0
	39-55	10-30	3.5-5.5	0	0	0
	55-60	2.0-10	3.5-5.5	0	0	0
192A:						
Yachats, occasional flooding------------	0-9	10-25	3.5-6.0	0	0	0
	9-19	5.0-15	5.6-6.0	0	0	0
	19-39	0.0-10	5.6-6.0	0	0	0
	39-54	0.0-10	5.6-6.0	0	0	0
	54-60	0.0-10	5.6-6.0	0	0	0

Table 26.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Salinity	Sodium adsorption ratio
	In	meq/100 g	pH	Pct	mmhos/cm	
303F:						
Ascar----------------	0-1	---	3.5-5.5	0	0	0
	1-9	50-70	4.5-5.5	0	0	0
	9-25	50-70	4.5-5.5	0	0	0
	25-39	30-50	4.5-5.5	0	0	0
	39-43	---	---	---	---	---
Rock outcrop---------	0-60	---	---	---	---	---
307F:						
Braun----------------	0-1	---	3.5-5.5	0	0	0
	1-4	10-15	4.5-5.5	0	0	0
	4-10	10-15	4.5-5.5	0	0	0
	10-21	10-15	4.5-5.5	0	0	0
	21-30	10-15	4.5-5.5	0	0	0
	30-36	10-15	4.5-5.5	0	0	0
	36-46	---	---	---	0	---
Scaponia-------------	0-2	---	3.5-5.5	0	0	0
	2-9	15-20	4.5-5.5	0	0	0
	9-15	15-25	4.5-5.5	0	0	0
	15-26	15-25	4.5-5.5	0	0	0
	26-45	15-25	4.5-5.5	0	0	0
	45-55	---	---	---	0	---
309D:						
Caterl---------------	0-1	---	3.5-5.5	0	0	0
	1-6	40-60	4.5-6.0	0	0	0
	6-12	40-60	4.5-6.0	0	0	0
	12-18	40-60	4.5-6.0	0	0	0
	18-35	30-50	4.5-6.0	0	0	0
	35-53	30-50	4.5-6.0	0	0	0
	53-57	---	---	---	---	---
Laderly--------------	0-1	---	3.5-5.5	0	0	0
	1-13	40-60	4.5-5.5	0	0	0
	13-22	30-50	4.5-5.5	0	0	0
	22-30	30-50	4.5-5.5	0	0	0
	30-34	---	---	---	---	---
309E:						
Caterl---------------	0-1	---	3.5-5.5	0	0	0
	1-6	40-60	4.5-6.0	0	0	0
	6-12	40-60	4.5-6.0	0	0	0
	12-18	40-60	4.5-6.0	0	0	0
	18-35	30-50	4.5-6.0	0	0	0
	35-53	30-50	4.5-6.0	0	0	0
	53-57	---	---	---	---	---
Laderly--------------	0-1	---	3.5-5.5	0	0	0
	1-13	40-60	4.5-5.5	0	0	0
	13-22	30-50	4.5-5.5	0	0	0
	22-30	30-50	4.5-5.5	0	0	0
	30-34	---	---	---	---	---
314A:						
Croquib--------------	0-2	50-70	3.5-5.0	0	0	0
	2-6	50-70	3.5-5.0	0	0	0
	6-13	30-50	3.5-5.0	0	0	0
	13-24	30-50	3.5-5.0	0	0	0
	24-34	30-50	3.5-5.0	0	0	0
	34-60	5.0-15	3.5-5.0	0	0	0

Table 26.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Salinity	Sodium adsorption ratio
	In	*meq/100 g*	*pH*	*Pct*	*mmhos/cm*	
322F:						
Harslow--------------	0-1	---	3.5-5.5	0	0	0
	1-7	40-60	4.5-6.0	0	0	0
	7-13	40-60	4.5-6.0	0	0	0
	13-22	30-50	4.5-6.0	0	0	0
	22-37	30-50	4.5-6.0	0	0	0
	37-41	---	---	---	---	---
Kilchis--------------	0-1	---	3.5-5.5	0	0	0
	1-7	35-45	4.5-5.5	0	0	0
	7-11	15-35	4.5-5.5	0	0	0
	11-19	10-25	4.5-5.5	0	0	0
	19-23	---	---	---	---	---
327:						
Dystrudepts, steep---	0-1	---	3.5-5.5	0	0	0
	1-11	15-35	4.5-6.0	0	0	0
	11-21	10-30	4.5-6.0	0	0	0
	21-29	10-30	4.5-6.0	0	0	0
	29-36	5.0-25	4.5-6.0	0	0	0
	36-46	---	---	---	0	---
328:						
Dystrudepts----------	0-12	15-35	4.5-6.0	0	0	0
	12-35	10-30	4.5-6.0	0	0	0
	35-45	10-30	4.5-6.0	0	0	0
	45-63	5.0-25	4.5-6.0	0	0	0
Humaquepts, isomesic	0-11	20-40	4.5-6.0	0	0	0
	11-19	15-30	4.5-6.0	0	0	0
	19-30	10-30	4.5-6.0	0	0	0
	30-50	10-30	4.5-6.0	0	0	0
	50-60	10-25	4.5-6.0	0	0	0
329F:						
Kilchis--------------	0-1	---	3.5-5.5	0	0	0
	1-7	35-45	4.5-5.5	0	0	0
	7-11	15-35	4.5-5.5	0	0	0
	11-19	10-25	4.5-5.5	0	0	0
	19-23	---	---	---	---	---
Rock outcrop---------	0-60	---	---	---	---	---
338F:						
Laderly--------------	0-1	---	3.5-5.5	0	0	0
	1-13	40-60	4.5-5.5	0	0	0
	13-22	30-50	4.5-5.5	0	0	0
	22-30	30-50	4.5-5.5	0	0	0
	30-34	---	---	---	---	---
Rock outcrop---------	0-60	---	---	---	---	---
342D:						
McMille--------------	0-1	---	3.5-5.5	0	0	0
	1-5	35-45	4.5-5.5	0	0	0
	5-14	15-30	4.5-5.5	0	0	0
	14-20	10-20	4.5-5.5	0	0	0
	20-32	10-20	4.5-5.5	0	0	0
	32-45	10-20	4.5-5.5	0	0	0
	45-55	---	---	---	---	---

Table 26.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Salinity	Sodium adsorption ratio
	In	*meq/100 g*	*pH*	*Pct*	*mmhos/cm*	
345A:						
Mues	0-6	50-70	3.5-5.0	0	0	0
	6-11	50-70	3.5-5.0	0	0	0
	11-25	50-70	3.5-5.0	0	0	0
	25-31	50-70	3.5-5.0	0	0	0
	31-36	50-70	3.5-5.0	0	0	0
	36-60	5.0-15	3.5-5.0	0	0	0
346D:						
Murtip	0-1	---	3.5-5.5	0	0	0
	1-7	40-60	4.5-5.5	0	0	0
	7-14	40-60	4.5-5.5	0	0	0
	14-24	30-50	4.5-5.5	0	0	0
	24-43	30-50	4.5-5.5	0	0	0
	43-50	20-30	4.5-5.5	0	0	0
	50-60	---	---	---	---	---
347E:						
Murtip	0-1	---	3.5-5.5	0	0	0
	1-7	40-60	4.5-5.5	0	0	0
	7-14	40-60	4.5-5.5	0	0	0
	14-24	30-50	4.5-5.5	0	0	0
	24-43	30-50	4.5-5.5	0	0	0
	43-50	20-30	4.5-5.5	0	0	0
	50-60	---	---	---	---	---
Caterl	0-1	---	3.5-5.5	0	0	0
	1-6	40-60	4.5-6.0	0	0	0
	6-12	40-60	4.5-6.0	0	0	0
	12-18	40-60	4.5-6.0	0	0	0
	18-35	30-50	4.5-6.0	0	0	0
	35-53	30-50	4.5-6.0	0	0	0
	53-57	---	---	---	---	---
350E:						
Necanicum	0-1	---	3.5-5.5	0	0	0
	1-10	50-70	4.5-5.5	0	0	0
	10-18	50-70	4.5-5.5	0	0	0
	18-27	30-50	4.5-5.5	0	0	0
	27-49	30-50	4.5-5.5	0	0	0
	49-71	30-50	4.5-5.5	0	0	0
Ascar	0-1	---	3.5-5.5	0	0	0
	1-9	50-70	4.5-5.5	0	0	0
	9-25	50-70	4.5-5.5	0	0	0
	25-39	30-50	4.5-5.5	0	0	0
	39-43	---	---	---	---	---
356D:						
Rinearson	0-1	---	3.5-5.5	0	0	0
	1-6	15-20	4.5-5.5	0	0	0
	6-16	15-20	4.5-5.5	0	0	0
	16-27	10-20	3.5-5.5	0	0	0
	27-39	10-20	3.5-5.5	0	0	0
	39-52	10-15	3.5-5.5	0	0	0
	52-62	---	---	---	---	---

Table 26.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Salinity	Sodium adsorption ratio
	In	*meq/100 g*	*pH*	*Pct*	*mmhos/cm*	
357E:						
Scaponia-------------	0-2	---	3.5-5.5	0	0	0
	2-9	15-20	4.5-5.5	0	0	0
	9-15	15-25	4.5-5.5	0	0	0
	15-26	15-25	4.5-5.5	0	0	0
	26-45	15-25	4.5-5.5	0	0	0
	45-55	---	---	---	0	---
Braun----------------	0-1	---	3.5-5.5	0	0	0
	1-4	10-15	4.5-5.5	0	0	0
	4-10	10-15	4.5-5.5	0	0	0
	10-21	10-15	4.5-5.5	0	0	0
	21-30	10-15	4.5-5.5	0	0	0
	30-36	10-15	4.5-5.5	0	0	0
	36-46	---	---	---	0	---
358D:						
Skipanon-------------	0-2	---	3.5-5.5	0	0	0
	2-7	45-55	3.5-5.0	0	0	0
	7-15	20-40	3.5-5.0	0	0	0
	15-29	20-35	3.5-5.0	0	0	0
	29-44	20-35	3.5-5.0	0	0	0
	44-62	20-30	3.5-5.0	0	0	0
358E:						
Skipanon-------------	0-2	---	3.5-5.5	0	0	0
	2-7	45-55	3.5-5.0	0	0	0
	7-15	20-40	3.5-5.0	0	0	0
	15-29	20-35	3.5-5.0	0	0	0
	29-44	20-35	3.5-5.0	0	0	0
	44-62	20-30	3.5-5.0	0	0	0
359D:						
Svensen--------------	0-3	---	3.5-5.5	0	0	0
	3-11	35-45	3.5-5.5	0	0	0
	11-20	35-45	3.5-5.5	0	0	0
	20-41	10-20	3.5-5.0	0	0	0
	41-63	5.0-15	3.5-5.0	0	0	0
359E:						
Svensen--------------	0-3	---	3.5-5.5	0	0	0
	3-11	35-45	3.5-5.5	0	0	0
	11-20	35-45	3.5-5.5	0	0	0
	20-41	10-20	3.5-5.0	0	0	0
	41-63	5.0-15	3.5-5.0	0	0	0
363D:						
Tolke----------------	0-1	---	3.5-5.5	0	0	0
	1-6	40-60	4.5-5.5	0	0	0
	6-10	40-60	4.5-5.5	0	0	0
	10-17	30-50	4.5-5.0	0	0	0
	17-26	30-50	4.5-5.0	0	0	0
	26-45	30-50	4.5-5.0	0	0	0
	45-61	30-50	4.5-5.0	0	0	0
371C:						
Walluski-------------	0-2	---	3.5-5.5	0	0	0
	2-13	45-55	3.5-6.0	0	0	0
	13-27	20-40	3.5-5.5	0	0	0
	27-36	20-35	3.5-5.5	0	0	0
	36-62	25-40	3.5-5.5	0	0	0

Table 26.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Salinity	Sodium adsorption ratio
	In	*meq/100 g*	*pH*	*Pct*	*mmhos/cm*	
403E:						
Astoria--------------	0-1	---	3.5-5.5	0	0	0
	1-8	35-45	3.5-5.0	0	0	0
	8-12	20-35	3.5-5.0	0	0	0
	12-25	30-45	3.5-5.0	0	0	0
	25-37	30-45	3.5-5.0	0	0	0
	37-51	25-35	3.5-5.0	0	0	0
	51-61	---	---	---	---	---
420E:						
Hembre---------------	0-1	---	3.5-5.5	0	0	0
	1-7	35-45	4.5-5.5	0	0	0
	7-14	20-35	4.5-5.5	0	0	0
	14-19	25-35	4.5-5.5	0	0	0
	19-28	25-35	4.5-5.5	0	0	0
	28-43	20-30	4.5-5.5	0	0	0
	43-47	---	---	---	---	---
420F:						
Hembre---------------	0-1	---	3.5-5.5	0	0	0
	1-7	35-45	4.5-5.5	0	0	0
	7-14	20-35	4.5-5.5	0	0	0
	14-19	25-35	4.5-5.5	0	0	0
	19-28	25-35	4.5-5.5	0	0	0
	28-43	20-30	4.5-5.5	0	0	0
	43-47	---	---	---	---	---
425E:						
Klickitat------------	0-1	---	3.5-5.5	0	0	0
	1-5	35-45	4.5-5.5	0	0	0
	5-13	25-35	4.5-5.5	0	0	0
	13-19	25-40	4.5-5.5	0	0	0
	19-42	25-35	4.5-5.5	0	0	0
	42-46	---	---	---	---	---
433D:						
Melby----------------	0-1	---	3.5-5.5	0	0	0
	1-5	20-30	4.5-5.5	0	0	0
	5-10	20-30	4.5-5.5	0	0	0
	10-18	30-40	4.5-5.5	0	0	0
	18-26	30-40	4.5-5.5	0	0	0
	26-42	35-40	4.5-5.5	0	0	0
	42-47	35-40	4.5-5.5	0	0	0
	47-57	---	---	---	0	---
433E:						
Melby----------------	0-1	---	3.5-5.5	0	0	0
	1-5	20-30	4.5-5.5	0	0	0
	5-10	20-30	4.5-5.5	0	0	0
	10-18	30-40	4.5-5.5	0	0	0
	18-26	30-40	4.5-5.5	0	0	0
	26-42	35-40	4.5-5.5	0	0	0
	42-47	35-40	4.5-5.5	0	0	0
	47-57	---	---	---	0	---

Table 26.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Salinity	Sodium adsorption ratio
	In	*meq/100 g*	*pH*	*Pct*	*mmhos/cm*	
439E:						
Tolke	0-1	---	3.5-5.5	0	0	0
	1-6	40-60	4.5-5.5	0	0	0
	6-10	40-60	4.5-5.5	0	0	0
	10-17	30-50	4.5-5.0	0	0	0
	17-26	30-50	4.5-5.0	0	0	0
	26-45	30-50	4.5-5.0	0	0	0
	45-61	30-50	4.5-5.0	0	0	0
501D:						
Apt	0-1	---	3.5-5.5	0	0	0
	1-6	20-35	4.5-5.5	0	0	0
	6-11	25-30	4.5-5.5	0	0	0
	11-18	20-35	4.5-5.5	0	0	0
	18-27	20-35	4.5-5.5	0	0	0
	27-37	20-55	4.5-5.5	0	0	0
	37-51	20-55	4.5-5.5	0	0	0
	51-66	20-30	4.5-5.5	0	0	0
McDuff	0-1	---	3.5-5.5	0	0	0
	1-9	30-50	4.5-5.5	0	0	0
	9-13	25-45	4.5-5.5	0	0	0
	13-21	35-60	4.5-5.5	0	0	0
	21-37	35-55	4.5-5.5	0	0	0
	37-47	---	---	---	---	---
501E:						
Apt	0-1	---	3.5-5.5	0	0	0
	1-6	20-35	4.5-5.5	0	0	0
	6-11	25-30	4.5-5.5	0	0	0
	11-18	20-35	4.5-5.5	0	0	0
	18-27	20-35	4.5-5.5	0	0	0
	27-37	20-55	4.5-5.5	0	0	0
	37-51	20-55	4.5-5.5	0	0	0
	51-66	20-30	4.5-5.5	0	0	0
McDuff	0-1	---	3.5-5.5	0	0	0
	1-9	30-50	4.5-5.5	0	0	0
	9-13	25-45	4.5-5.5	0	0	0
	13-21	35-60	4.5-5.5	0	0	0
	21-37	35-55	4.5-5.5	0	0	0
	37-47	---	---	---	---	---
517A:						
Euchre	0-8	50-70	3.5-6.0	0	0	0
	8-14	50-70	3.5-6.0	0	0	0
	14-24	25-40	3.5-5.5	0	0	0
	24-39	25-35	3.5-5.5	0	0	0
	39-55	10-30	3.5-5.5	0	0	0
	55-60	2.0-10	3.5-5.5	0	0	0
519D:						
Fendall	0-8	45-55	4.5-5.0	0	0	0
	8-13	25-40	4.5-5.0	0	0	0
	13-17	25-40	4.5-5.0	0	0	0
	17-27	30-45	4.5-5.0	0	0	0
	27-34	30-45	4.5-5.0	0	0	0
	34-44	---	---	---	---	---

Table 26.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Salinity	Sodium adsorption ratio
	In	*meq/100 g*	*pH*	*Pct*	*mmhos/cm*	
519D:						
Winema----------------	0-10	50-70	4.5-5.5	0	0	0
	10-21	50-70	4.5-5.5	0	0	0
	21-28	25-35	4.5-5.0	0	0	0
	28-42	30-45	4.5-5.0	0	0	0
	42-60	30-45	4.5-5.0	0	0	0
532D:						
Klootchie------------	0-1	---	3.5-5.5	0	0	0
	1-9	50-70	4.5-5.5	0	0	0
	9-19	50-70	4.5-5.5	0	0	0
	19-44	30-50	4.5-5.5	0	0	0
	44-68	30-50	4.5-5.5	0	0	0
Neotsu---------------	0-3	---	3.5-5.5	0	0	0
	3-9	50-70	3.5-5.0	0	0	0
	9-20	50-70	3.5-5.0	0	0	0
	20-32	30-50	3.5-5.0	0	0	0
	32-42	---	---	---	---	---
532E:						
Klootchie------------	0-1	---	3.5-5.5	0	0	0
	1-9	50-70	4.5-5.5	0	0	0
	9-19	50-70	4.5-5.5	0	0	0
	19-44	30-50	4.5-5.5	0	0	0
	44-68	30-50	4.5-5.5	0	0	0
Neotsu---------------	0-3	---	3.5-5.5	0	0	0
	3-9	50-70	3.5-5.0	0	0	0
	9-20	50-70	3.5-5.0	0	0	0
	20-32	30-50	3.5-5.0	0	0	0
	32-42	---	---	---	---	---
543F:						
Neotsu---------------	0-3	---	3.5-5.5	0	0	0
	3-9	50-70	3.5-5.0	0	0	0
	9-20	50-70	3.5-5.0	0	0	0
	20-32	30-50	3.5-5.0	0	0	0
	32-42	---	---	---	---	---
Necanicum------------	0-1	---	3.5-5.5	0	0	0
	1-10	50-70	4.5-5.5	0	0	0
	10-18	50-70	4.5-5.5	0	0	0
	18-27	30-50	4.5-5.5	0	0	0
	27-49	30-50	4.5-5.5	0	0	0
	49-71	30-50	4.5-5.5	0	0	0
552F:						
Reedsport------------	0-2	---	3.5-5.5	0	0	0
	2-8	35-45	5.1-6.0	0	0	0
	8-16	10-20	5.1-6.0	0	0	0
	16-26	10-20	4.5-5.5	0	0	0
	26-34	10-20	4.5-5.5	0	0	0
	34-44	---	---	---	0	---

Table 26.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Salinity	Sodium adsorption ratio
	In	*meq/100 g*	*pH*	*Pct*	*mmhos/cm*	
552F:						
Tolovana-------------	0-1	---	3.5-5.5	0	0	0
	1-6	50-70	4.5-5.5	0	0	0
	6-9	50-70	4.5-5.5	0	0	0
	9-20	50-70	4.5-5.5	0	0	0
	20-27	15-20	4.5-5.5	0	0	0
	27-38	15-20	4.5-5.5	0	0	0
	38-48	15-20	4.5-5.5	0	0	0
	48-60	10-20	3.5-5.5	0	0	0
555D:						
Templeton------------	0-2	---	3.5-5.5	0	0	0
	2-15	45-55	3.5-5.5	0	0	0
	15-28	15-35	3.5-5.5	0	0	0
	28-43	10-25	3.5-5.5	0	0	0
	43-54	10-25	3.5-5.5	0	0	0
	54-59	10-25	3.5-5.5	0	0	0
	59-69	---	---	---	0	---
Fendall--------------	0-8	45-55	4.5-5.0	0	0	0
	8-13	25-40	4.5-5.0	0	0	0
	13-17	25-40	4.5-5.0	0	0	0
	17-27	30-45	4.5-5.0	0	0	0
	27-34	30-45	4.5-5.0	0	0	0
	34-44	---	---	---	---	---
556D:						
Tolovana-------------	0-1	---	3.5-5.5	0	0	0
	1-6	50-70	4.5-5.5	0	0	0
	6-9	50-70	4.5-5.5	0	0	0
	9-20	50-70	4.5-5.5	0	0	0
	20-27	15-20	4.5-5.5	0	0	0
	27-38	15-20	4.5-5.5	0	0	0
	38-48	15-20	4.5-5.5	0	0	0
	48-60	10-20	3.5-5.5	0	0	0
Reedsport------------	0-2	---	3.5-5.5	0	0	0
	2-8	35-45	5.1-6.0	0	0	0
	8-16	10-20	5.1-6.0	0	0	0
	16-26	10-20	4.5-5.5	0	0	0
	26-34	10-20	4.5-5.5	0	0	0
	34-44	---	---	---	0	---
556E:						
Tolovana-------------	0-1	---	3.5-5.5	0	0	0
	1-6	50-70	4.5-5.5	0	0	0
	6-9	50-70	4.5-5.5	0	0	0
	9-20	50-70	4.5-5.5	0	0	0
	20-27	15-20	4.5-5.5	0	0	0
	27-38	15-20	4.5-5.5	0	0	0
	38-48	15-20	4.5-5.5	0	0	0
	48-60	10-20	3.5-5.5	0	0	0
Reedsport------------	0-2	---	3.5-5.5	0	0	0
	2-8	35-45	5.1-6.0	0	0	0
	8-16	10-20	5.1-6.0	0	0	0
	16-26	10-20	4.5-5.5	0	0	0
	26-34	10-20	4.5-5.5	0	0	0
	34-44	---	---	---	0	---

Table 26.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Salinity	Sodium adsorption ratio
	In	*meq/100 g*	*pH*	*Pct*	*mmhos/cm*	
611B:						
Dystrudepts, warm----	0-1	---	3.5-5.5	0	0	0
	1-6	20-40	3.5-5.5	0	0	0
	6-22	15-30	3.5-5.5	0	0	0
	22-31	15-35	3.5-5.5	0	0	0
	31-39	15-40	3.5-5.5	0	0	0
	39-49	10-35	3.5-5.5	0	0	0
	49-61	10-30	3.5-5.5	0	0	0
Aquepts, warm--------	0-6	15-35	4.5-6.5	0	0	0
	6-18	15-35	4.5-6.5	0	0	0
	18-31	15-35	4.5-6.5	0	0	0
Humaquepts, warm-----	0-11	20-40	4.5-6.0	0	0	0
	11-19	15-30	4.5-6.0	0	0	0
	19-30	10-30	4.5-6.0	0	0	0
	30-50	10-30	4.5-6.0	0	0	0
	50-60	10-25	4.5-6.0	0	0	0
W:						
Water	---	---	---	---	---	---

Table 27.--Water Features

(Depths of layers are in inches. See text for definitions of terms used in this table. Estimates of the frequenc
flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the
concern or that data were not estimated.)

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Du
			In	*In*	*In*			
1A:								
Brenner	B/D							
		January	0-7	>72	0-6	Long	Frequent	B
		February	0-7	>72	0-6	Long	Frequent	B
		March	0-7	>72	0-6	Long	Frequent	B
		April	0-7	>72	0-6	Long	Frequent	B
		May	12-18	>72	---	---	---	-
		June	18-26	>72	---	---	---	-
		July	26-40	>72	---	---	---	-
		August	26-40	>72	---	---	---	-
		September	40-55	>72	---	---	---	-
		October	26-40	>72	---	---	---	-
		November	0-7	>72	0-6	Long	Frequent	B
		December	0-7	>72	0-6	Long	Frequent	B
2A:								
Fluvaquents	B/D							
		January	0-4	>72	0-24	Very brief	Frequent	Very
		February	0-4	>72	0-24	Very brief	Frequent	Very
		March	0-4	>72	0-24	Very brief	Frequent	Very
		April	0-22	>72	0-24	Very brief	Frequent	Very
		May	0-22	>72	0-24	Very brief	Frequent	Very
		June	0-25	>72	0-24	Very brief	Frequent	Very
		July	0-25	>72	0-24	Very brief	Frequent	Very
		August	0-25	>72	0-24	Very brief	Frequent	Very
		September	0-25	>72	0-24	Very brief	Frequent	Very
		October	0-22	>72	0-24	Very brief	Frequent	Very
		November	0-4	>72	0-24	Very brief	Frequent	Very
		December	0-4	>72	0-24	Very brief	Frequent	Very

Table 27.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Du
			In	*In*	*In*			
2A:								
Histosols	C/D							
		January	0-7	>72	0-24	Very brief	Frequent	Ver
		February	0-7	>72	0-24	Very brief	Frequent	Ver
		March	0-7	>72	0-24	Very brief	Frequent	Ver
		April	0-7	>72	0-24	Very brief	Frequent	Ver
		May	0-7	>72	0-24	Very brief	Frequent	Ver
		June	0-13	>72	0-24	Very brief	Frequent	Ver
		July	0-32	>72	0-24	Very brief	Frequent	Ver
		August	0-32	>72	0-24	Very brief	Frequent	Ver
		September	0-32	>72	0-24	Very brief	Frequent	Ver
		October	0-13	>72	0-24	Very brief	Frequent	Ver
		November	0-7	>72	0-24	Very brief	Frequent	Ver
		December	0-7	>72	0-24	Very brief	Frequent	Ver
3A:								
Coquille	C/D							
		January	0-6	>72	0-12	Long	Frequent	Ver
		February	0-6	>72	0-12	Long	Frequent	Ver
		March	0-6	>72	0-12	Long	Frequent	Ver
		April	6-14	>72	0-12	Long	Frequent	Ver
		May	6-14	>72	0-12	Long	Frequent	Ver
		June	14-34	>72	0-12	Long	Frequent	Ver
		July	14-34	>72	0-12	Long	Frequent	Ver
		August	14-34	>72	0-12	Long	Frequent	Ver
		September	34-49	>72	0-12	Long	Frequent	Ver
		October	14-34	>72	0-12	Long	Frequent	Ver
		November	6-14	>72	0-12	Long	Frequent	Ver
		December	0-6	>72	0-12	Long	Frequent	Ver
4D:								
Ginsberg	C							
		Jan-Dec	---	---	---	---	None	-
4E:								
Ginsberg	C							
		Jan-Dec	---	---	---	---	None	-
Klistan	B							
		Jan-Dec	---	---	---	---	None	-
5E:								
Ferrelo	B							
		Jan-Dec	---	---	---	---	None	-

Table 27.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Du
			In	*In*	*In*			
6D:								
Horseprairie	B							
		Jan-Dec	---	---	---	---	None	-
Ferrelo	B							
		Jan-Dec	---	---	---	---	None	-
7:								
Dune land	---							
		Jan-Dec	---	---	---	---	None	-
8A:								
Depoe	D							
		January	3-7	12-20	0-6	Long	Frequent	-
		February	3-7	12-20	0-6	Long	Frequent	-
		March	3-7	12-20	0-6	Long	Frequent	-
		April	3-7	12-20	0-6	Long	Frequent	-
		May	3-7	12-20	0-6	Long	Frequent	-
		June	7-17	12-20	---	---	---	-
		July	7-17	12-20	---	---	---	-
		August	7-17	12-20	---	---	---	-
		September	7-17	12-20	---	---	---	-
		October	3-7	12-20	0-6	Long	Frequent	-
		November	3-7	12-20	0-6	Long	Frequent	-
		December	3-7	12-20	0-6	Long	Frequent	-
9B:								
Waldport	A							
		Jan-Dec	---	---	---	---	None	-
9C:								
Waldport	A							
		Jan-Dec	---	---	---	---	None	-
9D:								
Waldport	A							
		Jan-Dec	---	---	---	---	None	-
9E:								
Waldport	A							
		Jan-Dec	---	---	---	---	None	-
10B:								
Waldport, thin surface	A							
		Jan-Dec	---	---	---	---	None	-

Table 27.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Surface water depth	Ponding: Duration	Ponding: Frequency
			In	*In*	*In*		
10C:							
Waldport, thin surface	A						
		Jan-Dec	---	---	---	---	None
10E:							
Waldport, thin surface	A						
		Jan-Dec	---	---	---	---	None
11B:							
Netarts	A						
		Jan-Dec	---	---	---	---	None
11C:							
Netarts	A						
		Jan-Dec	---	---	---	---	None
11D:							
Netarts	A						
		Jan-Dec	---	---	---	---	None
11E:							
Netarts	A						
		Jan-Dec	---	---	---	---	None
12B:							
Yaquina	A/D						
		January	0-7	>72	0-12	Long	Frequent
		February	0-7	>72	0-12	Long	Frequent
		March	1-7	>72	0-12	Long	Frequent
		April	7-15	>72	0-6	Long	Frequent
		May	15-31	>72	---	---	---
		June	31-61	>72	---	---	---
		July	31-61	>72	---	---	---
		August	31-61	>72	---	---	---
		September	31-61	>72	---	---	---
		October	15-31	>72	---	---	---
		November	7-15	>72	0-6	Long	Frequent
		December	1-7	>72	0-12	Long	Frequent

Table 27.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Du
			In	*In*	*In*			
13B:								
Waldport, thin surface	A							
		Jan-Dec	---	---	---	---	None	
Heceta	A/D							
		January	0-1	>72	0-12	Long	Frequent	
		February	0-1	>72	0-12	Long	Frequent	
		March	0-1	>72	0-12	Long	Frequent	
		April	0-1	>72	0-12	Long	Frequent	
		May	1-6	>72	---	---	---	
		June	6-61	>72	---	---	---	
		July	6-61	>72	---	---	---	
		August	6-61	>72	---	---	---	
		September	6-61	>72	---	---	---	
		October	1-6	>72	---	---	---	
		November	0-1	>72	0-12	Long	Frequent	
		December	0-1	>72	0-12	Long	Frequent	
14A:								
Heceta	A/D							
		January	0-1	>72	0-12	Long	Frequent	
		February	0-1	>72	0-12	Long	Frequent	
		March	0-1	>72	0-12	Long	Frequent	
		April	0-1	>72	0-12	Long	Frequent	
		May	1-6	>72	---	---	---	
		June	6-61	>72	---	---	---	
		July	6-61	>72	---	---	---	
		August	6-61	>72	---	---	---	
		September	6-61	>72	---	---	---	
		October	1-6	>72	---	---	---	
		November	0-1	>72	0-12	Long	Frequent	
		December	0-1	>72	0-12	Long	Frequent	

Table 27.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Du
			In	*In*	*In*			
15B:								
Netarts------------------------------------	A							
		Jan-Dec	---	---	---	---	None	
Yaquina------------------------------------	A/D							
		January	0-7	>72	0-12	Long	Frequent	
		February	0-7	>72	0-12	Long	Frequent	
		March	1-7	>72	0-12	Long	Frequent	
		April	7-15	>72	0-6	Long	Frequent	
		May	15-31	>72	---	---	---	
		June	31-61	>72	---	---	---	
		July	31-61	>72	---	---	---	
		August	31-61	>72	---	---	---	
		September	31-61	>72	---	---	---	
		October	15-31	>72	---	---	---	
		November	7-15	>72	0-6	Long	Frequent	
		December	1-7	>72	0-12	Long	Frequent	
16F:								
Caterl-------------------------------------	B							
		Jan-Dec	---	---	---	---	None	
Laderly------------------------------------	B							
		Jan-Dec	---	---	---	---	None	
Murtip-------------------------------------	B							
		Jan-Dec	---	---	---	---	None	
17B:								
Chitwood-----------------------------------	C/D							
		January	11-19	>72	---	---	None	
		February	11-19	>72	---	---	None	
		March	19-29	>72	---	---	None	
		April	19-29	>72	---	---	None	
		May	19-29	>72	---	---	None	
		November	19-29	>72	---	---	None	
		December	11-19	>72	---	---	None	

Table 27.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Du
			In	*In*	*In*			
17B:								
Hebo	D							
		January	0-4	>72	0-6	Long	Frequent	
		February	0-4	>72	0-6	Long	Frequent	
		March	0-4	>72	0-6	Long	Frequent	
		April	0-4	>72	0-6	Long	Frequent	
		May	4-10	>72	---	---	---	
		June	10-18	>72	---	---	---	
		July	18-26	>72	---	---	---	
		October	18-26	>72	---	---	---	
		November	4-10	>72	0-6	Long	Frequent	
		December	0-4	>72	0-6	Long	Frequent	
18B:								
Chitwood	C/D							
		January	11-19	>72	---	---	None	
		February	11-19	>72	---	---	None	
		March	19-29	>72	---	---	None	
		April	19-29	>72	---	---	None	
		May	19-29	>72	---	---	None	
		November	19-29	>72	---	---	None	
		December	11-19	>72	---	---	None	
18C:								
Chitwood	C/D							
		January	11-19	>72	---	---	None	
		February	11-19	>72	---	---	None	
		March	19-29	>72	---	---	None	
		April	19-29	>72	---	---	None	
		May	19-29	>72	---	---	None	
		November	19-29	>72	---	---	None	
		December	11-19	>72	---	---	None	
19E:								
Klootchie	B							
		Jan-Dec	---	---	---	---	None	
20D:								
Klootchie	B							
		Jan-Dec	---	---	---	---	None	
Necanicum	B							
		Jan-Dec	---	---	---	---	None	

Table 27.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Du
			In	*In*	*In*			
20E:								
Klootchie	B							
		Jan-Dec	---	---	---	---	None	
Necanicum	B							
		Jan-Dec	---	---	---	---	None	
21F:								
Necanicum	B							
		Jan-Dec	---	---	---	---	None	
Ascar	B							
		Jan-Dec	---	---	---	---	None	
Klootchie	B							
		Jan-Dec	---	---	---	---	None	
22F:								
Ascar	B							
		Jan-Dec	---	---	---	---	None	
Necanicum	B							
		Jan-Dec	---	---	---	---	None	
Rock outcrop	---							
		Jan-Dec	---	---	---	---	None	
23F:								
Rock outcrop	---							
		Jan-Dec	---	---	---	---	None	
Ascar	B							
		Jan-Dec	---	---	---	---	None	
24C:								
Lebam	C							
		Jan-Dec	---	---	---	---	None	
24D:								
Lebam	C							
		Jan-Dec	---	---	---	---	None	

Table 27.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table		Ponding			
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Du
			In	*In*	*In*			
25E:								
Lebam	C	Jan-Dec	---	---	---	---	None	-
Necanicum	B	Jan-Dec	---	---	---	---	None	-
26F:								
Lebam	C	Jan-Dec	---	---	---	---	None	-
Necanicum	B	Jan-Dec	---	---	---	---	None	-
28D:								
Templeton	B	Jan-Dec	---	---	---	---	None	-
Necanicum	B	Jan-Dec	---	---	---	---	None	-
29D:								
Templeton	B	Jan-Dec	---	---	---	---	None	-
Klootchie	B	Jan-Dec	---	---	---	---	None	-
29E:								
Templeton	B	Jan-Dec	---	---	---	---	None	-
Klootchie	B	Jan-Dec	---	---	---	---	None	-
30D:								
Templeton	B	Jan-Dec	---	---	---	---	None	-
30E:								
Templeton	B	Jan-Dec	---	---	---	---	None	-
Ecola	C	Jan-Dec	---	---	---	---	None	-

Table 27.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table		Ponding			
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Du
			In	*In*	*In*			
30F:								
Templeton	B							
		Jan-Dec	---	---	---	---	None	-
Ecola	C							
		Jan-Dec	---	---	---	---	None	-
31D:								
Tolovana	C							
		Jan-Dec	---	---	---	---	None	-
Templeton	B							
		Jan-Dec	---	---	---	---	None	-
31E:								
Tolovana	C							
		Jan-Dec	---	---	---	---	None	-
Templeton	B							
		Jan-Dec	---	---	---	---	None	-
32D:								
Munsoncreek	C							
		Jan-Dec	---	---	---	---	None	-
Flowerpot	C/D							
		January	14-22	>72	---	---	None	-
		February	14-22	>72	---	---	None	-
		March	22-30	>72	---	---	None	-
		April	30-52	>72	---	---	None	-
		May	30-52	>72	---	---	None	-
		October	30-52	>72	---	---	None	-
		November	30-52	>72	---	---	None	-
		December	22-30	>72	---	---	None	-
32E:								
Munsoncreek	C							
		Jan-Dec	---	---	---	---	None	-
Templeton	B							
		Jan-Dec	---	---	---	---	None	-
33D:								
Tolovana	C							
		Jan-Dec	---	---	---	---	None	-

Table 27.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Du
			In	*In*	*In*			
37D:								
Templeton	B	Jan-Dec	---	---	---	---	None	-
Skipanon	B	Jan-Dec	---	---	---	---	None	-
37E:								
Templeton	B	Jan-Dec	---	---	---	---	None	-
Skipanon	B	Jan-Dec	---	---	---	---	None	-
38E:								
Templeton	B	Jan-Dec	---	---	---	---	None	-
Necanicum	B	Jan-Dec	---	---	---	---	None	-
43F:								
Klistan	B	Jan-Dec	---	---	---	---	None	-
Harslow	C	Jan-Dec	---	---	---	---	None	-
Hemcross	B	Jan-Dec	---	---	---	---	None	-
44E:								
Klistan	B	Jan-Dec	---	---	---	---	None	-
Harslow	C	Jan-Dec	---	---	---	---	None	-
Rock outcrop	---	Jan-Dec	---	---	---	---	None	-

Table 27.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Du
			In	*In*	*In*			
44F:								
Harslow	C							
		Jan-Dec	---	---	---	---	None	-
Klistan	B							
		Jan-Dec	---	---	---	---	None	-
Rock outcrop	---							
		Jan-Dec	---	---	---	---	None	-
45B:								
Hebo	D							
		January	0-4	>72	0-6	Long	Frequent	-
		February	0-4	>72	0-6	Long	Frequent	-
		March	0-4	>72	0-6	Long	Frequent	-
		April	0-4	>72	0-6	Long	Frequent	-
		May	4-10	>72	---	---	---	-
		June	10-18	>72	---	---	---	-
		July	18-26	>72	---	---	---	-
		October	18-26	>72	---	---	---	-
		November	4-10	>72	0-6	Long	Frequent	-
		December	0-4	>72	0-6	Long	Frequent	-
48D:								
Hemcross	B							
		Jan-Dec	---	---	---	---	None	-
Klistan	B							
		Jan-Dec	---	---	---	---	None	-
48E:								
Hemcross	B							
		Jan-Dec	---	---	---	---	None	-
Klistan	B							
		Jan-Dec	---	---	---	---	None	-

Table 27.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Du
			In	*In*	*In*			
50B:								
Walluski	C							
		January	27-36	>72	---	---	None	-
		February	27-36	>72	---	---	None	-
		March	27-36	>72	---	---	None	-
		April	27-36	>72	---	---	None	-
		May	36-62	>72	---	---	None	-
		October	36-62	>72	---	---	None	-
		November	27-36	>72	---	---	None	-
		December	27-36	>72	---	---	None	-
51B:								
Walluski	C							
		January	27-36	>72	---	---	None	-
		February	27-36	>72	---	---	None	-
		March	27-36	>72	---	---	None	-
		April	27-36	>72	---	---	None	-
		May	36-62	>72	---	---	None	-
		October	36-62	>72	---	---	None	-
		November	27-36	>72	---	---	None	-
		December	27-36	>72	---	---	None	-
Chitwood	C/D							
		January	11-19	>72	---	---	None	-
		February	11-19	>72	---	---	None	-
		March	19-29	>72	---	---	None	-
		April	19-29	>72	---	---	None	-
		May	19-29	>72	---	---	None	-
		November	19-29	>72	---	---	None	-
		December	11-19	>72	---	---	None	-
51C:								
Walluski	C							
		January	27-36	>72	---	---	None	-
		February	27-36	>72	---	---	None	-
		March	27-36	>72	---	---	None	-
		April	27-36	>72	---	---	None	-
		May	36-62	>72	---	---	None	-
		October	36-62	>72	---	---	None	-
		November	27-36	>72	---	---	None	-
		December	27-36	>72	---	---	None	-

Table 27.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Du
			In	*In*	*In*			
51C:								
Chitwood	C/D							
		January	11-19	>72	---	---	None	-
		February	11-19	>72	---	---	None	-
		March	19-29	>72	---	---	None	-
		April	19-29	>72	---	---	None	-
		May	19-29	>72	---	---	None	-
		November	19-29	>72	---	---	None	-
		December	11-19	>72	---	---	None	-
54B:								
Knappa	B							
		Jan-Dec	---	---	---	---	None	-
55A:								
Histosols	C/D							
		January	0-7	>72	0-24	Long	Frequent	Ver
		February	0-7	>72	0-24	Long	Frequent	Ver
		March	0-7	>72	0-24	Long	Frequent	Ver
		April	0-7	>72	0-24	Long	Frequent	Ver
		May	0-7	>72	0-24	Long	Frequent	Ver
		June	0-13	>72	0-24	Long	Frequent	Ver
		July	0-32	>72	0-24	Long	Frequent	Ver
		August	0-32	>72	0-24	Long	Frequent	Ver
		September	0-32	>72	0-24	Long	Frequent	Ver
		October	0-13	>72	0-24	Long	Frequent	Ver
		November	0-7	>72	0-24	Long	Frequent	Ver
		December	0-7	>72	0-24	Long	Frequent	Ver
Water	---							
		---	---	---	---	---	---	-
56B:								
Wolfer	B							
		Jan-Dec	---	---	---	---	None	-
56C:								
Wolfer	B							
		Jan-Dec	---	---	---	---	None	-
57B:								
Condorbridge	C							
		Jan-Dec	---	---	---	---	None	-

Table 27.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Du
			In	*In*	*In*			
57C:								
Condorbridge	C							
		Jan-Dec	---	---	---	---	None	
58C:								
Knappa	B							
		Jan-Dec	---	---	---	---	None	
59B:								
Chitwood	C/D							
		January	11-19	>72	---	---	None	
		February	11-19	>72	---	---	None	
		March	19-29	>72	---	---	None	
		April	19-29	>72	---	---	None	
		May	19-29	>72	---	---	None	
		November	19-29	>72	---	---	None	
		December	11-19	>72	---	---	None	
Knappa	B							
		Jan-Dec	---	---	---	---	None	
60E:								
Caterl	B							
		Jan-Dec	---	---	---	---	None	
Laderly	B							
		Jan-Dec	---	---	---	---	None	
Rock outcrop	---							
		Jan-Dec	---	---	---	---	None	
60F:								
Laderly	B							
		Jan-Dec	---	---	---	---	None	
Caterl	B							
		Jan-Dec	---	---	---	---	None	
Rock outcrop	---							
		Jan-Dec	---	---	---	---	None	

Table 27.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Du
			In	*In*	*In*			
61F:								
Laderly, south slopes	B	Jan-Dec	---	---	---	---	None	
Rock outcrop, south slopes	---	Jan-Dec	---	---	---	---	None	
Caterl, south slopes	B	Jan-Dec	---	---	---	---	None	
62F:								
Rock outcrop	---	Jan-Dec	---	---	---	---	None	
Laderly	B	Jan-Dec	---	---	---	---	None	
70D:								
Murtip	B	Jan-Dec	---	---	---	---	None	
Caterl	B	Jan-Dec	---	---	---	---	None	
Laderly	B	Jan-Dec	---	---	---	---	None	
70E:								
Murtip	B	Jan-Dec	---	---	---	---	None	
Caterl	B	Jan-Dec	---	---	---	---	None	
Laderly	B	Jan-Dec	---	---	---	---	None	
71D:								
McMille	B	Jan-Dec	---	---	---	---	None	
Mutt	C	Jan-Dec	---	---	---	---	None	

Table 27.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Du
			In	*In*	*In*			
72D:								
Caterl, clayey	B							
		Jan-Dec	---	---	---	---	None	-
Murtip, clayey	B							
		Jan-Dec	---	---	---	---	None	-
73A:								
Nehalem, frequent flooding	B							
		January	---	---	---	---	None	B
		February	---	---	---	---	None	B
		March	---	---	---	---	None	B
		April	---	---	---	---	None	B
		November	---	---	---	---	None	B
		December	---	---	---	---	None	B
74A:								
Nehalem, occasional flooding	B							
		January	---	---	---	---	None	B
		February	---	---	---	---	None	B
		March	---	---	---	---	None	B
		April	---	---	---	---	None	B
		November	---	---	---	---	None	B
		December	---	---	---	---	None	B
76A:								
Nestucca	B/D							
		January	14-41	>72	---	---	None	B
		February	14-41	>72	---	---	None	B
		March	14-41	>72	---	---	None	B
		April	14-41	>72	---	---	None	B
		May	14-41	>72	---	---	None	-
		June	41-60	>72	---	---	None	-
		July	41-60	>72	---	---	None	-
		August	41-60	>72	---	---	None	-
		September	41-60	>72	---	---	None	-
		October	41-60	>72	---	---	None	-
		November	14-41	>72	---	---	None	B
		December	14-41	>72	---	---	None	B

Table 27.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Du
			In	*In*	*In*			
77A:								
Nestucca-------------------------------	B/D							
		January	14-41	>72	---	---	None	B
		February	14-41	>72	---	---	None	B
		March	14-41	>72	---	---	None	B
		April	14-41	>72	---	---	None	B
		May	14-41	>72	---	---	None	-
		June	41-60	>72	---	---	None	-
		July	41-60	>72	---	---	None	-
		August	41-60	>72	---	---	None	-
		September	41-60	>72	---	---	None	-
		October	41-60	>72	---	---	None	-
		November	14-41	>72	---	---	None	B
		December	14-41	>72	---	---	None	B
Brenner--------------------------------	B/D							
		January	0-7	>72	0-6	Long	Frequent	B
		February	0-7	>72	0-6	Long	Frequent	B
		March	0-7	>72	0-6	Long	Frequent	B
		April	0-7	>72	0-6	Long	Frequent	B
		May	12-18	>72	---	---	---	-
		June	18-26	>72	---	---	---	-
		July	26-40	>72	---	---	---	-
		August	26-40	>72	---	---	---	-
		September	40-55	>72	---	---	---	-
		October	26-40	>72	---	---	---	-
		November	0-7	>72	0-6	Long	Frequent	B
		December	0-7	>72	0-6	Long	Frequent	B
80B:								
Quillamook-----------------------------	B							
		Jan-Dec	---	---	---	---	None	-
81B:								
Quillamook, gravelly substratum----------	B							
		Jan-Dec	---	---	---	---	None	-
Quillamook-----------------------------	B							
		Jan-Dec	---	---	---	---	None	-

Table 27.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Du
			In	*In*	*In*			
81C:								
Quillamook, gravelly substratum----------	B							
		Jan-Dec	---	---	---	---	None	-
Quillamook-------------------------------	B							
		Jan-Dec	---	---	---	---	None	-
89A:								
Udifluvents------------------------------	A							
		January	---	---	---	---	None	Br
		February	---	---	---	---	None	Br
		March	---	---	---	---	None	Br
		April	---	---	---	---	None	Br
		November	---	---	---	---	None	Br
		December	---	---	---	---	None	Br
Riverwash--------------------------------	---							
		January	0-24	>72	---	---	None	Ve
		February	0-24	>72	---	---	None	Ve
		March	0-24	>72	---	---	None	Ve
		April	0-24	>72	---	---	None	Ve
		May	0-24	>72	---	---	None	Ve
		June	0-24	>72	---	---	None	Ve
		July	0-24	>72	---	---	None	Ve
		August	0-24	>72	---	---	None	-
		September	0-24	>72	---	---	None	-
		October	0-24	>72	---	---	None	Ve
		November	0-24	>72	---	---	None	Ve
		December	0-24	>72	---	---	None	Ve
Water------------------------------------	---							
		---	---	---	---	---	---	-
90A:								
Yachats----------------------------------	B							
		January	---	---	---	---	None	Br
		February	---	---	---	---	None	Br
		March	---	---	---	---	None	Br
		April	---	---	---	---	None	Br
		November	---	---	---	---	None	Br
		December	---	---	---	---	None	Br

Table 27.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Du
			In	*In*	*In*			
91A:								
Gauldy	A							
		January	---	---	---	---	None	B
		February	---	---	---	---	None	B
		March	---	---	---	---	None	B
		April	---	---	---	---	None	B
		November	---	---	---	---	None	B
		December	---	---	---	---	None	B
92A:								
Yachats	B							
		January	---	---	---	---	None	B
		February	---	---	---	---	None	B
		March	---	---	---	---	None	B
		April	---	---	---	---	None	B
		November	---	---	---	---	None	B
		December	---	---	---	---	None	B
Gauldy	A							
		January	---	---	---	---	None	B
		February	---	---	---	---	None	B
		March	---	---	---	---	None	B
		April	---	---	---	---	None	B
		November	---	---	---	---	None	B
		December	---	---	---	---	None	B
93B:								
Gauldy, occasional flooding	A							
		January	---	---	---	---	None	B
		February	---	---	---	---	None	B
		March	---	---	---	---	None	B
		April	---	---	---	---	None	B
		November	---	---	---	---	None	B
		December	---	---	---	---	None	B
Gauldy, rare flooding	A							
		January	---	---	---	---	None	-
		February	---	---	---	---	None	-
		March	---	---	---	---	None	-
		April	---	---	---	---	None	-
		November	---	---	---	---	None	-
		December	---	---	---	---	None	-

Table 27.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency
			In	*In*	*In*		
94B:							
Ginger	C/D						
		January	17-20	>72	---	---	None
		February	17-20	>72	---	---	None
		March	20-28	>72	---	---	None
		April	20-28	>72	---	---	None
		May	20-28	>72	---	---	None
		November	20-28	>72	---	---	None
		December	17-20	>72	---	---	None
Quillamook	B						
		Jan-Dec	---	---	---	---	None
Urban land	---						
		Jan-Dec	---	---	---	---	None
95B:							
Urban land	---						
		Jan-Dec	---	---	---	---	None
Quillamook	B						
		Jan-Dec	---	---	---	---	None
96B:							
Ginger	C/D						
		January	17-20	>72	---	---	None
		February	17-20	>72	---	---	None
		March	20-28	>72	---	---	None
		April	20-28	>72	---	---	None
		May	20-28	>72	---	---	None
		November	20-28	>72	---	---	None
		December	17-20	>72	---	---	None
Hebo	D						
		January	0-4	>72	0-6	Long	Frequent
		February	0-4	>72	0-6	Long	Frequent
		March	0-4	>72	0-6	Long	Frequent
		April	0-4	>72	0-6	Long	Frequent
		May	4-10	>72	---	---	---
		June	10-18	>72	---	---	---
		July	18-26	>72	---	---	---
		October	18-26	>72	---	---	---
		November	4-10	>72	0-6	Long	Frequent
		December	0-4	>72	0-6	Long	Frequent

Table 27.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Du
			In	*In*	*In*			
99:								
Beaches	---							
		January	0-72	>72	---	---	None	Very
		February	0-72	>72	---	---	None	Very
		March	0-72	>72	---	---	None	Very
		April	0-72	>72	---	---	None	Very
		May	0-72	>72	---	---	None	Very
		June	0-72	>72	---	---	None	Very
		July	0-72	>72	---	---	None	Very
		August	0-72	>72	---	---	None	Very
		September	0-72	>72	---	---	None	Very
		October	0-72	>72	---	---	None	Very
		November	0-72	>72	---	---	None	Very
		December	0-72	>72	---	---	None	Very
100B:								
Urban land	---							
		Jan-Dec	---	---	---	---	None	-
Udorthents	A							
		Jan-Dec	---	---	---	---	None	-
101B:								
Urban land, flooded	---							
		January	---	---	---	---	None	B
		February	---	---	---	---	None	B
		March	---	---	---	---	None	B
		April	---	---	---	---	None	B
		December	---	---	---	---	None	B
Udorthents, flooded	A/D							
		January	14-41	>72	---	---	None	B
		February	14-41	>72	---	---	None	B
		March	14-41	>72	---	---	None	B
		April	14-41	>72	---	---	None	B
		May	14-41	>72	---	---	None	-
		June	41-60	>72	---	---	None	-
		July	41-60	>72	---	---	None	-
		August	41-60	>72	---	---	None	-
		September	41-60	>72	---	---	None	-
		October	41-60	>72	---	---	None	-
		November	14-41	>72	---	---	None	-
		December	14-41	>72	---	---	None	B

Table 27.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Du
			In	In	In			
102A:								
Fluvaquents, diked	B/D							
		January	0-4	>72	0-12	Long	Frequent	B
		February	0-4	>72	0-12	Long	Frequent	B
		March	0-4	>72	0-12	Long	Frequent	B
		April	7-22	>72	0-12	Long	Frequent	B
		May	7-22	>72	---	---	---	-
		June	7-22	>72	---	---	---	-
		July	22-25	>72	---	---	---	-
		August	22-25	>72	---	---	---	-
		September	22-25	>72	---	---	---	-
		October	7-22	>72	---	---	---	-
		November	4-7	>72	0-12	Long	Frequent	B
		December	0-4	>72	0-12	Long	Frequent	B
Histosols, diked	C/D							
		January	0-7	>72	0-12	Long	Frequent	B
		February	0-7	>72	0-12	Long	Frequent	B
		March	0-7	>72	0-12	Long	Frequent	B
		April	0-7	>72	0-12	Long	Frequent	B
		May	0-13	>72	0-12	Long	Frequent	-
		June	7-13	>72	0-12	Long	Frequent	-
		July	13-20	>72	---	---	---	-
		August	13-20	>72	---	---	---	-
		September	13-20	>72	---	---	---	-
		October	7-13	>72	---	---	---	-
		November	0-7	>72	0-12	Long	Frequent	B
		December	0-7	>72	0-12	Long	Frequent	B
103A:								
Coquille, diked	C/D							
		January	0-6	>72	0-12	Long	Frequent	B
		February	0-6	>72	0-12	Long	Frequent	B
		March	0-6	>72	0-12	Long	Frequent	B
		April	6-14	>72	0-12	Long	Frequent	B
		May	6-14	>72	0-12	Long	Frequent	B
		June	14-34	>72	---	---	---	-
		July	14-34	>72	---	---	---	-
		August	14-34	>72	---	---	---	-
		September	34-49	>72	---	---	---	-
		October	14-34	>72	---	---	---	-
		November	6-14	>72	0-12	Long	Frequent	B
		December	0-6	>72	0-12	Long	Frequent	B

Table 27.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Du
			In	*In*	*In*			
104A:								
Coquille, protected	C/D							
		January	0-6	>72	0-12	Very brief	Frequent	-
		February	0-6	>72	0-12	Very brief	Frequent	-
		March	0-6	>72	0-12	Very brief	Frequent	-
		April	6-14	>72	0-12	Very brief	Frequent	-
		May	6-14	>72	---	---	---	-
		June	14-34	>72	---	---	---	-
		July	14-34	>72	---	---	---	-
		August	14-34	>72	---	---	---	-
		September	34-49	>72	---	---	---	-
		October	14-34	>72	---	---	---	-
		November	6-14	>72	0-12	Very brief	Frequent	-
		December	0-6	>72	0-12	Very brief	Frequent	-
Brenner, protected	B/D							
		January	0-7	>72	0-6	Brief	Frequent	-
		February	0-7	>72	0-6	Brief	Frequent	-
		March	0-7	>72	0-6	Brief	Frequent	-
		April	0-7	>72	0-6	Brief	Frequent	-
		May	12-18	>72	---	---	---	-
		June	18-26	>72	---	---	---	-
		July	26-40	>72	---	---	---	-
		August	26-40	>72	---	---	---	-
		September	40-55	>72	---	---	---	-
		October	26-40	>72	---	---	---	-
		November	0-7	>72	0-6	Brief	Frequent	-
		December	0-7	>72	0-6	Brief	Frequent	-
Nehalem, protected	B							
		Jan-Dec	---	---	---	---	None	-
110F:								
Waldport, thin surface	A							
		Jan-Dec	---	---	---	---	None	-

Table 27.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Du
			In	*In*	*In*			
115A:								
Aquepts	C/D							
		January	0-9	>72	0-12	Long	Frequent	B
		February	0-9	>72	0-12	Long	Frequent	B
		March	0-9	>72	0-12	Long	Frequent	B
		April	0-20	>72	0-12	Long	Frequent	B
		May	0-20	>72	0-12	Long	Frequent	-
		June	0-72	>72	---	---	---	-
		July	0-72	>72	---	---	---	-
		August	0-72	>72	---	---	---	-
		September	0-72	>72	---	---	---	-
		October	0-72	>72	0-12	Long	Frequent	-
		November	0-20	>72	0-12	Long	Frequent	B
		December	0-9	>72	0-12	Long	Frequent	B
116A:								
Aquepts, warm	C/D							
		January	0-9	>72	0-12	Long	Frequent	B
		February	0-9	>72	0-12	Long	Frequent	B
		March	0-9	>72	0-12	Long	Frequent	B
		April	0-9	>72	0-12	Long	Frequent	B
		May	0-9	>72	0-12	Long	Frequent	-
		June	0-9	>72	---	---	---	-
		July	9-20	>72	---	---	---	-
		August	20-43	>72	---	---	---	-
		September	20-43	>72	---	---	---	-
		October	9-20	>72	0-12	Long	Frequent	B
		November	0-9	>72	0-12	Long	Frequent	B
		December	0-9	>72	0-12	Long	Frequent	B
118B:								
Oxyaquic Hapludands, flood plains	C							
		January	25-38	>72	---	---	None	B
		February	25-38	>72	---	---	None	B
		March	25-38	>72	---	---	None	B
		April	25-38	>72	---	---	None	B
		May	25-38	>72	---	---	None	-
		June	38-72	>72	---	---	None	-
		October	38-72	>72	---	---	None	-
		November	25-38	>72	---	---	None	B
		December	25-38	>72	---	---	None	B
Alic Hapludands, terraces	B							
		Jan-Dec	---	---	---	---	None	-

Table 27.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Du
			In	*In*	*In*			
119B:								
Oxyaquic Fulvudands, flood plains	C							
		January	26-60	>72	---	---	None	B
		February	26-60	>72	---	---	None	B
		March	26-60	>72	---	---	None	B
		April	26-60	>72	---	---	None	B
		May	26-60	>72	---	---	None	-
		June	26-60	>72	---	---	None	-
		October	26-60	>72	---	---	None	-
		November	26-60	>72	---	---	None	B
		December	26-60	>72	---	---	None	B
Typic Fulvudands, terraces	B							
		Jan-Dec	---	---	---	---	None	-
120C:								
Alic Hapludands, terraces	B							
		Jan-Dec	---	---	---	---	None	-
Alic Hapludands, fans	B							
		Jan-Dec	---	---	---	---	None	-
121D:								
Fendall	C							
		Jan-Dec	---	---	---	---	None	-
Munsoncreek	C							
		Jan-Dec	---	---	---	---	None	-
125B:								
Siletz	C							
		Jan-Dec	---	---	---	---	None	-
126B:								
Siletz, warm	C							
		Jan-Dec	---	---	---	---	None	-
127C:								
Condorbridge, warm	C							
		Jan-Dec	---	---	---	---	None	-

Table 27.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency
			In	*In*	*In*		
128B:							
Siletz	C						
		Jan-Dec	---	---	---	---	None
Wolfer	B						
		Jan-Dec	---	---	---	---	None
144F:							
Harslow, south slopes	C						
		Jan-Dec	---	---	---	---	None
Rock outcrop, south slopes	---						
		Jan-Dec	---	---	---	---	None
Klistan, south slopes	B						
		Jan-Dec	---	---	---	---	None
145F:							
Rock outcrop	---						
		Jan-Dec	---	---	---	---	None
Harslow	C						
		Jan-Dec	---	---	---	---	None
156F:							
Sevencedars	B						
		Jan-Dec	---	---	---	---	None
Newanna	C						
		Jan-Dec	---	---	---	---	None
157D:							
Caterl, till substratum	B						
		Jan-Dec	---	---	---	---	None
157E:							
Caterl, till substratum	B						
		Jan-Dec	---	---	---	---	None
157F:							
Caterl, till substratum	B						
		Jan-Dec	---	---	---	---	None

Table 27.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Du
			In	*In*	*In*			
158D:								
Sevencedars, till substratum	B							
		Jan-Dec	---	---	---	---	None	-
158E:								
Sevencedars, till substratum	B							
		Jan-Dec	---	---	---	---	None	-
158F:								
Sevencedars, till substratum	B							
		Jan-Dec	---	---	---	---	None	-
159D:								
Sevencedars, clayey	C							
		Jan-Dec	---	---	---	---	None	-
161D:								
Sevencedars	B							
		Jan-Dec	---	---	---	---	None	-
Newanna	C							
		Jan-Dec	---	---	---	---	None	-
Woodspoint	B							
		Jan-Dec	---	---	---	---	None	-
161E:								
Sevencedars	B							
		Jan-Dec	---	---	---	---	None	-
Newanna	C							
		Jan-Dec	---	---	---	---	None	-
Woodspoint	B							
		Jan-Dec	---	---	---	---	None	-
161F:								
Newanna	C							
		Jan-Dec	---	---	---	---	None	-
Sevencedars	B							
		Jan-Dec	---	---	---	---	None	-
Rock outcrop	---							
		Jan-Dec	---	---	---	---	None	-

Table 27.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Du
			In	*In*	*In*			
162D:								
Mosscreek	B							
		Jan-Dec	---	---	---	---	None	-
Fawceter	B							
		Jan-Dec	---	---	---	---	None	-
162E:								
Mosscreek	B							
		Jan-Dec	---	---	---	---	None	-
Fawceter	B							
		Jan-Dec	---	---	---	---	None	-
163F:								
Fawceter	B							
		Jan-Dec	---	---	---	---	None	-
Killam	B							
		Jan-Dec	---	---	---	---	None	-
Mosscreek	B							
		Jan-Dec	---	---	---	---	None	-
164F:								
Killam	B							
		Jan-Dec	---	---	---	---	None	-
Fawceter	B							
		Jan-Dec	---	---	---	---	None	-
Rock outcrop	---							
		Jan-Dec	---	---	---	---	None	-
166F:								
Rock outcrop	---							
		Jan-Dec	---	---	---	---	None	-
Killam	B							
		Jan-Dec	---	---	---	---	None	-

Table 27.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Du
			In	*In*	*In*			
170A:								
Logsden	B							
		January	---	---	---	---	None	-
		February	---	---	---	---	None	-
		March	---	---	---	---	None	-
		April	---	---	---	---	None	-
		November	---	---	---	---	None	-
		December	---	---	---	---	None	-
170B:								
Logsden	B							
		January	---	---	---	---	None	-
		February	---	---	---	---	None	-
		March	---	---	---	---	None	-
		April	---	---	---	---	None	-
		November	---	---	---	---	None	-
		December	---	---	---	---	None	-
Nehalem, occasional flooding	B							
		January	---	---	---	---	None	B
		February	---	---	---	---	None	B
		March	---	---	---	---	None	B
		April	---	---	---	---	None	B
		November	---	---	---	---	None	B
		December	---	---	---	---	None	B
173B:								
Tillamook	C							
		January	25-35	>72	---	---	None	-
		February	25-35	>72	---	---	None	-
		March	25-35	>72	---	---	None	-
		April	35-52	>72	---	---	None	-
		May	35-52	>72	---	---	None	-
		November	35-52	>72	---	---	None	-
		December	25-35	>72	---	---	None	-
Ginger	C/D							
		January	17-20	>72	---	---	None	-
		February	17-20	>72	---	---	None	-
		March	20-28	>72	---	---	None	-
		April	20-28	>72	---	---	None	-
		May	20-28	>72	---	---	None	-
		November	20-28	>72	---	---	None	-
		December	17-20	>72	---	---	None	-

Table 27.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Du
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	
			In	*In*	*In*			
173C:								
Tillamook	C							
		January	25-35	>72	---	---	None	
		February	25-35	>72	---	---	None	
		March	25-35	>72	---	---	None	
		April	35-52	>72	---	---	None	
		May	35-52	>72	---	---	None	
		November	35-52	>72	---	---	None	
		December	25-35	>72	---	---	None	
Ginger	C/D							
		January	17-20	>72	---	---	None	
		February	17-20	>72	---	---	None	
		March	20-28	>72	---	---	None	
		April	20-28	>72	---	---	None	
		May	20-28	>72	---	---	None	
		November	20-28	>72	---	---	None	
		December	17-20	>72	---	---	None	
174C:								
Typic Fulvudands, terraces	B							
		Jan-Dec	---	---	---	---	None	
Typic Fulvudands, fans	B							
		Jan-Dec	---	---	---	---	None	
175D:								
Astoria	C							
		Jan-Dec	---	---	---	---	None	
176D:								
Preacher	B							
		Jan-Dec	---	---	---	---	None	
Bohannon	C							
		Jan-Dec	---	---	---	---	None	
176E:								
Preacher	B							
		Jan-Dec	---	---	---	---	None	
Bohannon	C							

Table 27.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Du
			In	*In*	*In*			
177B:								
Dystrudepts	C/D							
		January	22-31	>72	---	---	None	-
		February	22-31	>72	---	---	None	-
		March	22-31	>72	---	---	None	-
		April	22-31	>72	---	---	None	-
		May	31-39	>72	---	---	None	-
		June	49-72	>72	---	---	None	-
		October	49-72	>72	---	---	None	-
		November	31-39	>72	---	---	None	-
		December	22-31	>72	---	---	None	-
Aquepts	C/D							
		January	0-6	>72	0-12	Long	Frequent	B
		February	0-6	>72	0-12	Long	Frequent	B
		March	0-6	>72	0-12	Long	Frequent	B
		April	0-18	>72	0-12	Long	Frequent	B
		May	0-18	>72	0-12	Long	Frequent	-
		June	0-31	>72	---	---	---	-
		July	0-51	>72	---	---	---	-
		August	0-51	>72	---	---	---	-
		September	0-51	>72	---	---	---	-
		October	0-31	>72	0-12	Long	Frequent	-
		November	0-18	>72	0-12	Long	Frequent	B
		December	0-6	>72	0-12	Long	Frequent	B
178B:								
Fluventic Humic Dystrudepts	C							
		January	35-40	>72	---	---	None	B
		February	35-40	>72	---	---	None	B
		March	35-40	>72	---	---	None	B
		April	35-40	>72	---	---	None	B
		May	35-40	>72	---	---	None	-
		June	40-72	>72	---	---	None	-
		October	40-72	>72	---	---	None	-
		November	35-40	>72	---	---	None	B
		December	35-40	>72	---	---	None	B
Dystrudepts	B							
		Jan-Dec	---	---	---	---	None	-

Table 27.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Du
			In	*In*	*In*			
178B:								
Aquepts	C/D							
		January	0-8	>72	0-12	Long	Frequent	B
		February	0-8	>72	0-12	Long	Frequent	B
		March	0-20	>72	0-12	Long	Frequent	B
		April	0-20	>72	0-12	Long	Frequent	B
		May	0-20	>72	0-12	Long	Frequent	-
		June	0-72	>72	---	---	---	-
		July	0-72	>72	---	---	---	-
		August	0-72	>72	---	---	---	-
		September	0-72	>72	---	---	---	-
		October	0-72	>72	---	---	---	-
		November	0-20	>72	0-12	Long	Frequent	B
		December	0-8	>72	0-12	Long	Frequent	B
180D:								
Salander	B							
		Jan-Dec	---	---	---	---	None	-
180E:								
Salander	B							
		Jan-Dec	---	---	---	---	None	-
Necanicum	B							
		Jan-Dec	---	---	---	---	None	-
180F:								
Salander	B							
		Jan-Dec	---	---	---	---	None	-
Necanicum	B							
		Jan-Dec	---	---	---	---	None	-
Neskowin	C							
		Jan-Dec	---	---	---	---	None	-
181E:								
Neskowin	C							
		Jan-Dec	---	---	---	---	None	-
Salander	B							
		Jan-Dec	---	---	---	---	None	-

Table 27.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Du
			In	*In*	*In*			
181F:								
Neskowin	C							
		Jan-Dec	---	---	---	---	None	-
Rock outcrop	---							
		Jan-Dec	---	---	---	---	None	-
Necanicum	B							
		Jan-Dec	---	---	---	---	None	-
182D:								
Neotsu	C							
		Jan-Dec	---	---	---	---	None	-
Salander	B							
		Jan-Dec	---	---	---	---	None	-
183D:								
Winema	C							
		Jan-Dec	---	---	---	---	None	-
Fendall	C							
		Jan-Dec	---	---	---	---	None	-
185F:								
Udorthents, steep	B							
		Jan-Dec	---	---	---	---	None	-
Rock outcrop	---							
		Jan-Dec	---	---	---	---	None	-
190D:								
Mulkey	B							
		Jan-Dec	---	---	---	---	None	-

Table 27.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Du
			In	*In*	*In*			
191B:								
Siletz	C							
		Jan-Dec	---	---	---	---	None	-
Euchre	C/D							
		January	14-24	>72	---	---	None	-
		February	14-24	>72	---	---	None	-
		March	14-24	>72	---	---	None	-
		April	14-24	>72	---	---	None	-
		May	24-39	>72	---	---	None	-
		November	24-39	>72	---	---	None	-
		December	14-24	>72	---	---	None	-
192A:								
Yachats, occasional flooding	B							
		January	---	---	---	---	None	B
		February	---	---	---	---	None	B
		March	---	---	---	---	None	B
		April	---	---	---	---	None	B
		November	---	---	---	---	None	B
		December	---	---	---	---	None	B
303F:								
Ascar	B							
		Jan-Dec	---	---	---	---	None	-
Rock outcrop	---							
		Jan-Dec	---	---	---	---	None	-
307F:								
Braun	C							
		Jan-Dec	---	---	---	---	None	-
Scaponia	B							
		Jan-Dec	---	---	---	---	None	-
309D:								
Caterl	B							
		Jan-Dec	---	---	---	---	None	-
Laderly	B							
		Jan-Dec	---	---	---	---	None	-

Table 27.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency
			In	*In*	*In*		
309E:							
Caterl	B						
		Jan-Dec	---	---	---	---	None
Laderly	B						
		Jan-Dec	---	---	---	---	None
314A:							
Croquib	D						
		January	0-2	25-40	0-6	Long	Frequent
		February	0-2	25-40	0-6	Long	Frequent
		March	0-2	25-40	0-6	Long	Frequent
		April	2-6	25-40	0-6	Long	Frequent
		May	6-13	25-40	---	---	---
		June	24-34	25-40	---	---	---
		July	24-34	25-40	---	---	---
		October	24-34	25-40	---	---	---
		November	6-13	25-40	0-6	Long	Frequent
		December	0-2	25-40	0-6	Long	Frequent
322F:							
Harslow	C						
		Jan-Dec	---	---	---	---	None
Kilchis	D						
		Jan-Dec	---	---	---	---	None
327:							
Dystrudepts, steep	C						
		Jan-Dec	---	---	---	---	None

Table 27.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Du
			In	*In*	*In*			
328:								
Dystrudepts	B							
		Jan-Dec	---	---	---	---	None	
Humaquepts, isomesic	C/D							
		January	0-11	>72	0-6	Brief	Frequent	
		February	0-11	>72	0-6	Brief	Frequent	
		March	0-11	>72	0-6	Brief	Frequent	
		April	0-11	>72	0-6	Brief	Frequent	
		May	0-11	>72	0-6	Brief	Frequent	
		June	19-30	>72	---	---	---	
		July	19-30	>72	---	---	---	
		August	30-50	>72	---	---	---	
		September	30-50	>72	---	---	---	
		October	19-30	>72	---	---	---	
		November	0-11	>72	0-6	Brief	Frequent	
		December	0-11	>72	0-6	Brief	Frequent	
329F:								
Kilchis	D							
		Jan-Dec	---	---	---	---	None	
Rock outcrop	---							
		Jan-Dec	---	---	---	---	None	
338F:								
Laderly	B							
		Jan-Dec	---	---	---	---	None	
Rock outcrop	---							
		Jan-Dec	---	---	---	---	None	
342D:								
McMille	B							
		Jan-Dec	---	---	---	---	None	
345A:								
Mues	C							
		January	25-31	31-40	---	---	None	
		February	25-31	31-40	---	---	None	
		March	25-31	31-40	---	---	None	
		April	25-31	31-40	---	---	None	
		May	25-31	31-40	---	---	None	
		November	25-31	31-40	---	---	None	
		December	25-31	31-40	---	---	None	

Table 27.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table		Ponding			
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Du
			In	*In*	*In*			
346D:								
Murtip	B							
		Jan-Dec	---	---	---	---	None	
347E:								
Murtip	B							
		Jan-Dec	---	---	---	---	None	
Caterl	B							
		Jan-Dec	---	---	---	---	None	
350E:								
Necanicum	B							
		Jan-Dec	---	---	---	---	None	
Ascar	B							
		Jan-Dec	---	---	---	---	None	
356D:								
Rinearson	B							
		Jan-Dec	---	---	---	---	None	
357E:								
Scaponia	B							
		Jan-Dec	---	---	---	---	None	
Braun	C							
		Jan-Dec	---	---	---	---	None	
358D:								
Skipanon	B							
		Jan-Dec	---	---	---	---	None	
358E:								
Skipanon	B							
		Jan-Dec	---	---	---	---	None	
359D:								
Svensen	A							
		Jan-Dec	---	---	---	---	None	
359E:								
Svensen	A							
		Jan-Dec	---	---	---	---	None	

Table 27.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency
			In	*In*	*In*		
363D:							
Tolke	B						
		Jan-Dec	---	---	---	---	None
371C:							
Walluski	C						
		January	27-36	>72	---	---	None
		February	27-36	>72	---	---	None
		March	27-36	>72	---	---	None
		April	27-36	>72	---	---	None
		May	36-62	>72	---	---	None
		October	36-62	>72	---	---	None
		November	27-36	>72	---	---	None
		December	27-36	>72	---	---	None
403E:							
Astoria	C						
		Jan-Dec	---	---	---	---	None
420E:							
Hembre	B						
		Jan-Dec	---	---	---	---	None
420F:							
Hembre	B						
		Jan-Dec	---	---	---	---	None
425E:							
Klickitat	B						
		Jan-Dec	---	---	---	---	None
433D:							
Melby	C						
		Jan-Dec	---	---	---	---	None
433E:							
Melby	C						
		Jan-Dec	---	---	---	---	None
439E:							
Tolke	B						
		Jan-Dec	---	---	---	---	None

Table 27.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Du
			In	*In*	*In*			
501D:								
Apt	C							
		Jan-Dec	---	---	---	---	None	
McDuff	C							
		Jan-Dec	---	---	---	---	None	
501E:								
Apt	C							
		Jan-Dec	---	---	---	---	None	
McDuff	C							
		Jan-Dec	---	---	---	---	None	
517A:								
Euchre	C/D							
		January	14-24	>72	---	---	None	
		February	14-24	>72	---	---	None	
		March	14-24	>72	---	---	None	
		April	14-24	>72	---	---	None	
		May	24-39	>72	---	---	None	
		November	24-39	>72	---	---	None	
		December	14-24	>72	---	---	None	
519D:								
Fendall	C							
		Jan-Dec	---	---	---	---	None	
Winema	C							
		Jan-Dec	---	---	---	---	None	
532D:								
Klootchie	B							
		Jan-Dec	---	---	---	---	None	
Neotsu	C							
		Jan-Dec	---	---	---	---	None	
532E:								
Klootchie	B							
		Jan-Dec	---	---	---	---	None	
Neotsu	C							
		Jan-Dec	---	---	---	---	None	

Table 27.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Surface water depth	Ponding: Duration	Ponding: Frequency	Du
			In	*In*	*In*			
543F:								
Neotsu	C							
		Jan-Dec	---	---	---	---	None	-
Necanicum	B							
		Jan-Dec	---	---	---	---	None	-
552F:								
Reedsport	C							
		Jan-Dec	---	---	---	---	None	-
Tolovana	C							
		Jan-Dec	---	---	---	---	None	-
555D:								
Templeton	B							
		Jan-Dec	---	---	---	---	None	-
Fendall	C							
		Jan-Dec	---	---	---	---	None	-
556D:								
Tolovana	C							
		Jan-Dec	---	---	---	---	None	-
Reedsport	C							
		Jan-Dec	---	---	---	---	None	-
556E:								
Tolovana	C							
		Jan-Dec	---	---	---	---	None	-
Reedsport	C							
		Jan-Dec	---	---	---	---	None	-

Table 27.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Du
			In	*In*	*In*			
611B:								
Dystrudepts, warm	C/D							
		January	22-31	>72	---	---	None	-
		February	22-31	>72	---	---	None	-
		March	22-31	>72	---	---	None	-
		April	22-31	>72	---	---	None	-
		May	31-39	>72	---	---	None	-
		June	49-72	>72	---	---	None	-
		October	49-72	>72	---	---	None	-
		November	31-39	>72	---	---	None	-
		December	22-31	>72	---	---	None	-
Aquepts, warm	C/D							
		January	0-6	>72	0-12	Long	Frequent	B
		February	0-6	>72	0-12	Long	Frequent	B
		March	0-6	>72	0-12	Long	Frequent	B
		April	0-18	>72	0-12	Long	Frequent	B
		May	0-18	>72	0-12	Long	Frequent	-
		June	0-31	>72	---	---	---	-
		July	0-51	>72	---	---	---	-
		August	0-51	>72	---	---	---	-
		September	0-51	>72	---	---	---	-
		October	0-31	>72	0-12	Long	Frequent	-
		November	0-18	>72	0-12	Long	Frequent	B
		December	0-6	>72	0-12	Long	Frequent	B
Humaquepts, warm	C/D							
		January	0-11	>72	0-6	Brief	Frequent	-
		February	0-11	>72	0-6	Brief	Frequent	-
		March	0-11	>72	0-6	Brief	Frequent	-
		April	0-11	>72	0-6	Brief	Frequent	-
		May	0-11	>72	0-6	Brief	Frequent	-
		June	19-30	>72	---	---	---	-
		July	19-30	>72	---	---	---	-
		August	30-50	>72	---	---	---	-
		September	30-50	>72	---	---	---	-
		October	19-30	>72	---	---	---	-
		November	0-11	>72	0-6	Brief	Frequent	-
		December	0-11	>72	0-6	Brief	Frequent	-
W:								
Water	---							
		---	---	---	---	---	---	-

Table 28.--Soil Features

(See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a
were not estimated.)

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	U
	Kind	Depth to top	Thickness	Hardness	Initial	Total		
		In	*In*		*In*	*In*		
1A:								
Brenner----------------	---	---	---	---	0	---	None	Hig
2A:								
Fluvaquents------------	Strongly contrasting textural stratification	30-60	---	Noncemented	0	---	None	Mod
Histosols--------------	---	---	---	---	4-10	10-30	None	Hig
3A:								
Coquille---------------	---	---	---	---	0	---	None	Hig
4D:								
Ginsberg---------------	---	---	---	---	0	---	Low	Hig
4E:								
Ginsberg---------------	---	---	---	---	0	---	Low	Hig
Klistan----------------	Lithic bedrock	40-60	---	Very strongly cemented	0	---	Low	Hig
5E:								
Ferrelo----------------	---	---	---	---	0	---	None	Mod
6D:								
Horseprairie-----------	---	---	---	---	0	---	None	Hig
Ferrelo----------------	---	---	---	---	0	---	None	Mod
7:								
Dune land--------------	---	---	---	---	0	---	---	
8A:								
Depoe------------------	Ortstein	12-20	4-33	Strongly cemented	0	---	None	Hig
9B:								
Waldport---------------	---	---	---	---	0	---	None	Low
9C:								
Waldport---------------	---	---	---	---	0	---	None	Low

Table 28.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	U
	Kind	Depth to top	Thickness	Hardness	Initial	Total		
		In	*In*		*In*	*In*		
9D:								
Waldport	---	---	---	---	0	---	None	Low
9E:								
Waldport	---	---	---	---	0	---	None	Low
10B:								
Waldport, thin surface	---	---	---	---	0	---	None	Low
10C:								
Waldport, thin surface	---	---	---	---	0	---	None	Low
10E:								
Waldport, thin surface	---	---	---	---	0	---	None	Low
11B:								
Netarts	---	---	---	---	0	---	None	Hig
11C:								
Netarts	---	---	---	---	0	---	None	Hig
11D:								
Netarts	---	---	---	---	0	---	None	Hig
11E:								
Netarts	---	---	---	---	0	---	None	Hig
12B:								
Yaquina	---	---	---	---	0	---	None	Hig
13B:								
Waldport, thin surface	---	---	---	---	0	---	None	Low
Heceta	---	---	---	---	0	---	None	Mod
14A:								
Heceta	---	---	---	---	0	---	None	Mod
15B:								
Netarts	---	---	---	---	0	---	None	Hig
Yaquina	---	---	---	---	0	---	None	Hig
16F:								
Caterl	Lithic bedrock	40-60	---	Indurated	0	---	Moderate	Hig

Table 28.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	U
	Kind	Depth to top	Thickness	Hardness	Initial	Total		
		In	*In*		*In*	*In*		
16F:								
Laderly	Lithic bedrock	20-40	---	Indurated	0	---	Moderate	Hig
Murtip	Paralithic bedrock	40-60	---	Moderately cemented	0	---	Moderate	Hig
17B:								
Chitwood	---	---	---	---	0	---	None	Hig
Hebo	---	---	---	---	0	---	None	Hig
18B:								
Chitwood	---	---	---	---	0	---	None	Hig
18C:								
Chitwood	---	---	---	---	0	---	None	Hig
19E:								
Klootchie	---	---	---	---	0	---	Low	Hig
20D:								
Klootchie	---	---	---	---	0	---	Low	Hig
Necanicum	---	---	---	---	0	---	Low	Hig
20E:								
Klootchie	---	---	---	---	0	---	Low	Hig
Necanicum	---	---	---	---	0	---	Low	Hig
21F:								
Necanicum	---	---	---	---	0	---	Low	Hig
Ascar	Lithic bedrock	20-40	---	Very strongly cemented	0	---	Low	Hig
Klootchie	---	---	---	---	0	---	Low	Hig
22F:								
Ascar	Lithic bedrock	20-40	---	Very strongly cemented	0	---	Low	Hig
Necanicum	---	---	---	---	0	---	Low	Hig
Rock outcrop	Lithic bedrock	0-0	---	Indurated	0	---	---	

Table 28.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	U
	Kind	Depth to top	Thickness	Hardness	Initial	Total		
		In	*In*		*In*	*In*		
23F:								
Rock outcrop	Lithic bedrock	0-0	---	Indurated	0	---	---	
Ascar	Lithic bedrock	20-40	---	Very strongly cemented	0	---	Low	Hig
24C:								
Lebam	---	---	---	---	0	---	None	Hig
24D:								
Lebam	---	---	---	---	0	---	None	Hig
25E:								
Lebam	---	---	---	---	0	---	Low	Hig
Necanicum	---	---	---	---	0	---	Low	Hig
26F:								
Lebam	---	---	---	---	0	---	Low	Hig
Necanicum	---	---	---	---	0	---	Low	Hig
28D:								
Templeton	Paralithic bedrock	40-60	---	Weakly cemented	0	---	Low	Hig
Necanicum	---	---	---	---	0	---	Low	Hig
29D:								
Templeton	Paralithic bedrock	40-60	---	Weakly cemented	0	---	Low	Hig
Klootchie	---	---	---	---	0	---	Low	Hig
29E:								
Templeton	Paralithic bedrock	40-60	---	Weakly cemented	0	---	Low	Hig
Klootchie	---	---	---	---	0	---	Low	Hig
30D:								
Templeton	Paralithic bedrock	40-60	---	Weakly cemented	0	---	Low	Hig

Table 28.--Soil Features--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Thickness	Restrictive layer: Hardness	Subsidence: Initial	Subsidence: Total	Potential for frost action	U
		In	In		In	In		
30E:								
Templeton	Paralithic bedrock	40-60	---	Weakly cemented	0	---	Low	Hig
Ecola	Paralithic bedrock	20-40	---	Weakly cemented	0	---	Low	Hig
30F:								
Templeton	Paralithic bedrock	40-60	---	Weakly cemented	0	---	Low	Hig
Ecola	Paralithic bedrock	20-40	---	Weakly cemented	0	---	Low	Hig
31D:								
Tolovana	---	---	---	---	0	---	Low	Hig
Templeton	Paralithic bedrock	40-60	---	Weakly cemented	0	---	Low	Hig
31E:								
Tolovana	---	---	---	---	0	---	Low	Hig
Templeton	Paralithic bedrock	40-60	---	Weakly cemented	0	---	Low	Hig
32D:								
Munsoncreek	Paralithic bedrock	40-60	---	Weakly cemented	0	---	Low	Hig
Flowerpot	---	---	---	---	0	---	Low	Hig
32E:								
Munsoncreek	Paralithic bedrock	40-60	---	Weakly cemented	0	---	Low	Hig
Templeton	Paralithic bedrock	40-60	---	Weakly cemented	0	---	Low	Hig
33D:								
Tolovana	---	---	---	---	0	---	Low	Hig
37D:								
Templeton	Paralithic bedrock	40-60	---	Weakly cemented	0	---	Low	Hig

Table 28.--Soil Features--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Thickness	Restrictive layer: Hardness	Subsidence: Initial	Subsidence: Total	Potential for frost action	U
		In	*In*		*In*	*In*		
37D:								
Skipanon	---	---	---	---	0	---	Low	Hig
37E:								
Templeton	Paralithic bedrock	40-60	---	Weakly cemented	0	---	Low	Hig
Skipanon	---	---	---	---	0	---	Low	Hig
38E:								
Templeton	Paralithic bedrock	40-60	---	Weakly cemented	0	---	Low	Hig
Necanicum	---	---	---	---	0	---	Low	Hig
43F:								
Klistan	Lithic bedrock	40-60	---	Very strongly cemented	0	---	Low	Hig
Harslow	Lithic bedrock	20-40	---	Very strongly cemented	0	---	Low	Hig
Hemcross	---	---	---	---	0	---	Low	Hig
44E:								
Klistan	Lithic bedrock	40-60	---	Very strongly cemented	0	---	Low	Hig
Harslow	Lithic bedrock	20-40	---	Very strongly cemented	0	---	Low	Hig
Rock outcrop	Lithic bedrock	0-0	---	Indurated	0	---	---	
44F:								
Harslow	Lithic bedrock	20-40	---	Very strongly cemented	0	---	Low	Hig
Klistan	Lithic bedrock	40-60	---	Very strongly cemented	0	---	Low	Hig
Rock outcrop	Lithic bedrock	0-0	---	Indurated	0	---	---	
45B:								
Hebo	---	---	---	---	0	---	None	Hig

Table 28.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	U
	Kind	Depth to top	Thickness	Hardness	Initial	Total		
		In	*In*		*In*	*In*		
48D:								
Hemcross----------------	---	---	---	---	0	---	Low	Hig
Klistan-----------------	Lithic bedrock	40-60	---	Very strongly cemented	0	---	Low	Hig
48E:								
Hemcross----------------	---	---	---	---	0	---	Low	Hig
Klistan-----------------	Lithic bedrock	40-60	---	Very strongly cemented	0	---	Low	Hig
50B:								
Walluski----------------	---	---	---	---	0	---	None	Hig
51B:								
Walluski----------------	---	---	---	---	0	---	None	Hig
Chitwood----------------	---	---	---	---	0	---	None	Hig
51C:								
Walluski----------------	---	---	---	---	0	---	None	Hig
Chitwood----------------	---	---	---	---	0	---	None	Hig
54B:								
Knappa------------------	---	---	---	---	0	---	None	Hig
55A:								
Histosols---------------	---	---	---	---	4-10	10-30	None	Hig
Water-------------------	---	---	---	---	---	---	---	
56B:								
Wolfer------------------	Strongly contrasting textural stratification	24-36	---	Noncemented	0	---	None	Hig
56C:								
Wolfer------------------	Strongly contrasting textural stratification	24-36	---	Noncemented	0	---	None	Hig

Table 28.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	U
	Kind	Depth to top	Thickness	Hardness	Initial	Total		
		In	*In*		*In*	*In*		
57B:								
Condorbridge	---	---	---	---	0	---	None	Hig
57C:								
Condorbridge	---	---	---	---	0	---	None	Hig
58C:								
Knappa	---	---	---	---	0	---	None	Hig
59B:								
Chitwood	---	---	---	---	0	---	None	Hig
Knappa	---	---	---	---	0	---	None	Hig
60E:								
Caterl	Lithic bedrock	40-60	---	Indurated	0	---	Moderate	Hig
Laderly	Lithic bedrock	20-40	---	Indurated	0	---	Moderate	Hig
Rock outcrop	Lithic bedrock	0-0	---	Indurated	0	---	---	
60F:								
Laderly	Lithic bedrock	20-40	---	Indurated	0	---	Moderate	Hig
Caterl	Lithic bedrock	40-60	---	Indurated	0	---	Moderate	Hig
Rock outcrop	Lithic bedrock	0-0	---	Indurated	0	---	---	
61F:								
Laderly, south slopes	Lithic bedrock	20-40	---	Indurated	0	---	Moderate	Hig
Rock outcrop, south slopes	Lithic bedrock	0-0	---	Indurated	0	---	---	
Caterl, south slopes	Lithic bedrock	40-60	---	Indurated	0	---	Moderate	Hig
62F:								
Rock outcrop	Lithic bedrock	0-0	---	Indurated	0	---	---	
Laderly	Lithic bedrock	20-40	---	Indurated	0	---	Moderate	Hig
70D:								
Murtip	Paralithic bedrock	40-60	---	Moderately cemented	0	---	Moderate	Hig
Caterl	Lithic bedrock	40-60	---	Indurated	0	---	Moderate	Hig

Table 28.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	U
	Kind	Depth to top	Thickness	Hardness	Initial	Total		
		In	*In*		*In*	*In*		
70D:								
Laderly	Lithic bedrock	20-40	---	Indurated	0	---	Moderate	Hig
70E:								
Murtip	Paralithic bedrock	40-60	---	Moderately cemented	0	---	Moderate	Hig
Caterl	Lithic bedrock	40-60	---	Indurated	0	---	Moderate	Hig
Laderly	Lithic bedrock	20-40	---	Indurated	0	---	Moderate	Hig
71D:								
McMille	Paralithic bedrock	40-60	---	Moderately cemented	0	---	Moderate	Hig
Mutt	Paralithic bedrock	20-40	---	Moderately cemented	0	---	Moderate	Hig
72D:								
Caterl, clayey	Lithic bedrock	40-60	---	Indurated	0	---	Moderate	Hig
Murtip, clayey	Paralithic bedrock	40-60	---	Moderately cemented	0	---	Moderate	Hig
73A:								
Nehalem, frequent flooding	---	---	---	---	0	---	None	Mod
74A:								
Nehalem, occasional flooding	---	---	---	---	0	---	None	Mod
76A:								
Nestucca	---	---	---	---	0	---	None	Hig
77A:								
Nestucca	---	---	---	---	0	---	None	Hig
Brenner	---	---	---	---	0	---	None	Hig
80B:								
Quillamook	---	---	---	---	0	---	None	Hig

Table 28.--Soil Features--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Thickness	Restrictive layer: Hardness	Subsidence: Initial	Subsidence: Total	Potential for frost action	U
		In	In		In	In		
81B:								
Quillamook, gravelly substratum	Strongly contrasting textural stratification	40-60	---	Noncemented	0	---	None	Hig
Quillamook	---	---	---	---	0	---	None	Hig
81C:								
Quillamook, gravelly substratum	Strongly contrasting textural stratification	40-60	---	Noncemented	0	---	None	Hig
Quillamook	---	---	---	---	0	---	None	Hig
89A:								
Udifluvents	---	---	---	---	0	---	None	Mod
Riverwash	---	---	---	---	0	---	---	
Water	---	---	---	---	---	---	---	
90A:								
Yachats	---	---	---	---	0	---	None	Mod
91A:								
Gauldy	Strongly contrasting textural stratification	20-30	---	Noncemented	0	---	None	Hig
92A:								
Yachats	---	---	---	---	---	---	None	Mod
Gauldy	Strongly contrasting textural stratification	20-30	---	Noncemented	0	---	None	Hig

Table 28.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	U
	Kind	Depth to top	Thickness	Hardness	Initial	Total		
		In	*In*		*In*	*In*		
93B:								
Gauldy, occasional flooding	Strongly contrasting textural stratification	20-30	---	Noncemented	0	---	None	Hig
Gauldy, rare flooding	Strongly contrasting textural stratification	20-30	---	Noncemented	0	---	None	Hig
94B:								
Ginger	Strongly contrasting textural stratification	40-60	---	Noncemented	0	---	None	Hig
Quillamook	---	---	---	---	0	---	None	Hig
Urban land	---	---	---	---	0	---	---	
95B:								
Urban land	---	---	---	---	0	---	---	
Quillamook	---	---	---	---	0	---	None	Hig
96B:								
Ginger	Strongly contrasting textural stratification	40-60	---	Noncemented	0	---	None	Hig
Hebo	---	---	---	---	0	---	None	Hig
99:								
Beaches	---	---	---	---	0	---	---	
100B:								
Urban land	---	---	---	---	0	---	---	
Udorthents	---	---	---	---	0	---	None	Mod
101B:								
Urban land, flooded	---	---	---	---	0	---	---	

Table 28.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	U
	Kind	Depth to top	Thickness	Hardness	Initial	Total		
		In	*In*		*In*	*In*		
101B:								
Udorthents, flooded----	---	---	---	---	0	---	None	Hig
102A:								
Fluvaquents, diked-----	Strongly contrasting textural stratification	30-60	---	Noncemented	0	---	None	Hig
Histosols, diked-------	---	---	---	---	4-10	10-30	None	Hig
103A:								
Coquille, diked--------	---	---	---	---	0	---	None	Hig
104A:								
Coquille, protected----	---	---	---	---	0	---	None	Hig
Brenner, protected-----	---	---	---	---	0	---	None	Hig
Nehalem, protected-----	---	---	---	---	0	---	None	Hig
110F:								
Waldport, thin surface	---	---	---	---	0	---	None	Low
115A:								
Aquepts----------------	---	---	---	---	0	---	None	Hig
116A:								
Aquepts, warm----------	---	---	---	---	0	---	Low	Hig
118B:								
Oxyaquic Hapludands, flood plains----------	Strongly contrasting textural stratification	25-61	---	Noncemented	0	---	Low	Hig
Alic Hapludands, terraces--------------	Strongly contrasting textural stratification	37-61	---	Noncemented	0	---	Low	Hig

Table 28.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	U
	Kind	Depth to top	Thickness	Hardness	Initial	Total		
		In	*In*		*In*	*In*		
119B:								
Oxyaquic Fulvudands, flood plains----------	Strongly contrasting textural stratification	12-20	---	Noncemented	0	---	None	Hig
Typic Fulvudands, terraces-------------	Strongly contrasting textural stratification	30-50	---	Noncemented	0	---	None	Hig
120C:								
Alic Hapludands, terraces-------------	Strongly contrasting textural stratification	37-61	---	Noncemented	0	---	Low	Hig
Alic Hapludands, fans--	---	---	---	---	0	---	Low	Hig
121D:								
Fendall---------------	Paralithic bedrock	20-40	---	Moderately cemented	0	---	None	Hig
Munsoncreek------------	Paralithic bedrock	40-60	---	Weakly cemented	0	---	Low	Hig
125B:								
Siletz----------------	Strongly contrasting textural stratification	40-60	---	Noncemented	0	---	None	Hig
126B:								
Siletz, warm-----------	Strongly contrasting textural stratification	40-60	---	Noncemented	0	---	None	Hig
127C:								
Condorbridge, warm-----	---	---	---	---	0	---	None	Hig

Table 28.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		U
		In	*In*		*In*	*In*		
128B:								
Siletz	Strongly contrasting textural stratification	40-60	---	Noncemented	0	---	None	Hig
Wolfer	Strongly contrasting textural stratification	24-36	---	Noncemented	0	---	None	Hig
144F:								
Harslow, south slopes	Lithic bedrock	20-40	---	Very strongly cemented	0	---	Low	Hig
Rock outcrop, south slopes	Lithic bedrock	0-0	---	Indurated	0	---	---	
Klistan, south slopes	Lithic bedrock	40-60	---	Very strongly cemented	0	---	Low	Hig
145F:								
Rock outcrop	Lithic bedrock	0-0	---	Indurated	0	---	---	
Harslow	Lithic bedrock	20-40	---	Very strongly cemented	0	---	Low	Hig
156F:								
Sevencedars	---	---	---	---	0	---	High	Hig
Newanna	Lithic bedrock	20-40	---	Indurated	0	---	High	Hig
157D:								
Caterl, till substratum	---	---	---	---	0	---	Moderate	Hig
157E:								
Caterl, till substratum	---	---	---	---	0	---	Moderate	Hig
157F:								
Caterl, till substratum	---	---	---	---	0	---	Moderate	Hig
158D:								
Sevencedars, till substratum	---	---	---	---	0	---	High	Hig

Table 28.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	U
	Kind	Depth to top	Thickness	Hardness	Initial	Total		
		In	*In*		*In*	*In*		
158E:								
Sevencedars, till substratum------------	---	---	---	---	0	---	High	Hig
158F:								
Sevencedars, till substratum------------	---	---	---	---	0	---	High	Hig
159D:								
Sevencedars, clayey----	---	---	---	---	0	---	High	Hig
161D:								
Sevencedars------------	---	---	---	---	0	---	High	Hig
Newanna----------------	Lithic bedrock	20-40	---	Indurated	0	---	High	Hig
Woodspoint-------------	Lithic bedrock	40-60	---	Indurated	0	---	High	Hig
161E:								
Sevencedars------------	---	---	---	---	0	---	High	Hig
Newanna----------------	Lithic bedrock	20-40	---	Indurated	0	---	High	Hig
Woodspoint-------------	Lithic bedrock	40-60	---	Indurated	0	---	High	Hig
161F:								
Newanna----------------	Lithic bedrock	20-40	---	Indurated	0	---	High	Hig
Sevencedars------------	---	---	---	---	0	---	High	Hig
Rock outcrop-----------	Lithic bedrock	0-0	---	Indurated	0	---	---	
162D:								
Mosscreek--------------	---	---	---	---	0	---	Moderate	Hig
Fawceter---------------	Lithic bedrock	40-60	---	Very strongly cemented	0	---	Moderate	Hig
162E:								
Mosscreek--------------	---	---	---	---	0	---	Moderate	Hig
Fawceter---------------	Lithic bedrock	40-60	---	Very strongly cemented	0	---	Moderate	Hig

Table 28.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	U
	Kind	Depth to top	Thickness	Hardness	Initial	Total		
		In	*In*		*In*	*In*		
163F:								
Fawceter	Lithic bedrock	40-60	---	Very strongly cemented	0	---	Moderate	Hig
Killam	Lithic bedrock	20-40	---	Very strongly cemented	0	---	Moderate	Hig
Mosscreek	---	---	---	---	0	---	Moderate	Hig
164F:								
Killam	Lithic bedrock	20-40	---	Very strongly cemented	0	---	Moderate	Hig
Fawceter	Lithic bedrock	40-60	---	Very strongly cemented	0	---	Moderate	Hig
Rock outcrop	Lithic bedrock	0-0	---	Indurated	0	---	---	
166F:								
Rock outcrop	Lithic bedrock	0-0	---	Indurated	0	---	---	
Killam	Lithic bedrock	20-40	---	Very strongly cemented	0	---	Moderate	Hig
170A:								
Logsden	---	---	---	---	0	---	None	Mod
170B:								
Logsden	---	---	---	---	0	---	None	Mod
Nehalem, occasional flooding	---	---	---	---	0	---	None	Mod
173B:								
Tillamook	---	---	---	---	0	---	None	Hig
Ginger	Strongly contrasting textural stratification	40-60	---	Noncemented	0	---	None	Hig
173C:								
Tillamook	---	---	---	---	0	---	None	Hig

Table 28.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	U
	Kind	Depth to top	Thickness	Hardness	Initial	Total		
		In	In		In	In		
173C:								
Ginger	Strongly contrasting textural stratification	40-60	---	Noncemented	0	---	None	Hig
174C:								
Typic Fulvudands, terraces	Strongly contrasting textural stratification	30-50	---	Noncemented	0	---	None	Hig
Typic Fulvudands, fans	---	---	---	---	0	---	None	Hig
175D:								
Astoria	Paralithic bedrock	40-60	---	Weakly cemented	0	---	Low	Hig
176D:								
Preacher	Paralithic bedrock	40-60	---	Weakly cemented	0	---	Low	Hig
Bohannon	Paralithic bedrock	20-40	---	Moderately cemented	0	---	Low	Hig
176E:								
Preacher	Paralithic bedrock	40-60	---	Weakly cemented	0	---	Low	Hig
Bohannon	Paralithic bedrock	20-40	---	Moderately cemented	0	---	Low	Hig
177B:								
Dystrudepts	---	---	---	---	0	---	None	Hig
Aquepts	---	---	---	---	0	---	None	Mod
178B:								
Fluventic Humic Dystrudepts	Strongly contrasting textural stratification	40-61	---	Noncemented	0	---	None	Hig

Table 28.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	U
	Kind	Depth to top	Thickness	Hardness	Initial	Total		
		In	*In*		*In*	*In*		
178B:								
Dystrudepts	Strongly contrasting textural stratification	40-63	---	Noncemented	0	---	None	Mod
Aquepts	---	---	---	---	0	---	None	Hig
180D:								
Salander	---	---	---	---	0	---	Low	Hig
180E:								
Salander	---	---	---	---	0	---	Low	Hig
Necanicum	---	---	---	---	0	---	Low	Hig
180F:								
Salander	---	---	---	---	0	---	Low	Hig
Necanicum	---	---	---	---	0	---	Low	Hig
Neskowin	Lithic bedrock	20-40	---	Indurated	0	---	Low	Hig
181E:								
Neskowin	Lithic bedrock	20-40	---	Indurated	0	---	Low	Hig
Salander	---	---	---	---	0	---	Low	Hig
181F:								
Neskowin	Lithic bedrock	20-40	---	Indurated	0	---	Low	Hig
Rock outcrop	Lithic bedrock	0-0	---	Indurated	0	---	---	
Necanicum	---	---	---	---	0	---	Low	Hig
182D:								
Neotsu	Paralithic bedrock	20-40	---	Moderately cemented	0	---	Low	Hig
Salander	---	---	---	---	0	---	Low	Hig
183D:								
Winema	---	---	---	---	0	---	None	Hig
Fendall	Paralithic bedrock	20-40	---	Moderately cemented	0	---	None	Hig

Table 28.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	U
	Kind	Depth to top	Thickness	Hardness	Initial	Total		
		In	*In*		*In*	*In*		
185F:								
Udorthents, steep	Paralithic bedrock	10-40	---	Moderately cemented	0	---	None	Low
Rock outcrop	Lithic bedrock	0-0	---	Indurated	0	---	---	
190D:								
Mulkey	Lithic bedrock	20-40	---	Indurated	0	---	High	Hig
191B:								
Siletz	Strongly contrasting textural stratification	40-60	---	Noncemented	0	---	None	Hig
Euchre	Strongly contrasting textural stratification	36-60	---	Noncemented	0	---	None	Hig
192A:								
Yachats, occasional flooding	---	---	---	---	0	---	None	Mod
303F:								
Ascar	Lithic bedrock	20-40	---	Very strongly cemented	0	---	Low	Hig
Rock outcrop	Lithic bedrock	0-0	---	Indurated	0	---	---	
307F:								
Braun	Paralithic bedrock	20-40	---	Weakly cemented	0	---	Low	Low
Scaponia	Paralithic bedrock	40-60	---	Very weakly cemented	0	---	Low	Mod
309D:								
Caterl	Lithic bedrock	40-60	---	Indurated	0	---	Moderate	Hig
Laderly	Lithic bedrock	20-40	---	Indurated	0	---	Moderate	Hig
309E:								
Caterl	Lithic bedrock	40-60	---	Indurated	0	---	Moderate	Hig
Laderly	Lithic bedrock	20-40	---	Indurated	0	---	Moderate	Hig

Table 28.--Soil Features--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Thickness	Restrictive layer: Hardness	Subsidence: Initial	Subsidence: Total	Potential for frost action	U
		In	In		In	In		
314A:								
Croquib	Strongly contrasting textural stratification	25-40	---	Noncemented	0	---	None	Hig
322F:								
Harslow	Lithic bedrock	20-40	---	Very strongly cemented	0	---	Low	Hig
Kilchis	Lithic bedrock	12-20	---	Indurated	0	---	Low	Hig
327:								
Dystrudepts, steep	Paralithic bedrock	20-40	---	Weakly cemented	0	---	None	Mod
328:								
Dystrudepts	Strongly contrasting textural stratification	40-63	---	Noncemented	0	---	None	Mod
Humaquepts, isomesic	---	---	---	---	0	---	None	Hig
329F:								
Kilchis	Lithic bedrock	12-20	---	Indurated	0	---	Low	Hig
Rock outcrop	Lithic bedrock	0-0	---	Indurated	0	---	---	
338F:								
Laderly	Lithic bedrock	20-40	---	Indurated	0	---	Moderate	Hig
Rock outcrop	Lithic bedrock	0-0	---	Indurated	0	---	---	
342D:								
McMille	Paralithic bedrock	40-60	---	Moderately cemented	0	---	Moderate	Hig
345A:								
Mues	Strongly contrasting textural stratification	25-40	---	Strongly cemented	0	---	None	Hig

Table 28.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	U
	Kind	Depth to top	Thickness	Hardness	Initial	Total		
		In	*In*		*In*	*In*		
346D:								
Murtip	Paralithic bedrock	40-60	---	Moderately cemented	0	---	Moderate	Hig
347E:								
Murtip	Paralithic bedrock	40-60	---	Moderately cemented	0	---	Moderate	Hig
Caterl	Lithic bedrock	40-60	---	Indurated	0	---	Moderate	Hig
350E:								
Necanicum	---	---	---	---	0	---	Low	Hig
Ascar	Lithic bedrock	20-40	---	Very strongly cemented	0	---	Low	Hig
356D:								
Rinearson	Paralithic bedrock	40-60	---	Moderately cemented	0	---	Low	Mod
357E:								
Scaponia	Paralithic bedrock	40-60	---	Very weakly cemented	0	---	Low	Mod
Braun	Paralithic bedrock	20-40	---	Weakly cemented	0	---	Low	Low
358D:								
Skipanon	---	---	---	---	0	---	Low	Hig
358E:								
Skipanon	---	---	---	---	0	---	Low	Hig
359D:								
Svensen	---	---	---	---	0	---	Low	Hig
359E:								
Svensen	---	---	---	---	0	---	Low	Hig
363D:								
Tolke	---	---	---	---	0	---	Low	Hig
371C:								
Walluski	---	---	---	---	0	---	None	Hig

Table 28.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	U
	Kind	Depth to top	Thickness	Hardness	Initial	Total		
		In	*In*		*In*	*In*		
403E:								
Astoria	Paralithic bedrock	40-60	---	Weakly cemented	0	---	Low	Hig
420E:								
Hembre	Lithic bedrock	40-60	---	Indurated	0	---	Low	Hig
420F:								
Hembre	Lithic bedrock	40-60	---	Indurated	0	---	Low	Hig
425E:								
Klickitat	Lithic bedrock	40-60	---	Indurated	0	---	Low	Hig
433D:								
Melby	Paralithic bedrock	40-60	---	Weakly cemented	0	---	Low	Hig
433E:								
Melby	Paralithic bedrock	40-60	---	Weakly cemented	0	---	Low	Hig
439E:								
Tolke	---	---	---	---	0	---	Low	Hig
501D:								
Apt	---	---	---	---	0	---	Low	Hig
McDuff	Paralithic bedrock	20-40	---	Weakly cemented	0	---	Low	Hig
501E:								
Apt	---	---	---	---	0	---	Low	Hig
McDuff	Paralithic bedrock	20-40	---	Weakly cemented	0	---	Low	Hig
517A:								
Euchre	Strongly contrasting textural stratification	36-60	---	Noncemented	0	---	None	Hig
519D:								
Fendall	Paralithic bedrock	20-40	---	Moderately cemented	0	---	None	Hig

Table 28.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	U
	Kind	Depth to top	Thickness	Hardness	Initial	Total		
		In	*In*		*In*	*In*		
519D:								
Winema	---	---	---	---	0	---	None	Hig
532D:								
Klootchie	---	---	---	---	0	---	Low	Hig
Neotsu	Paralithic bedrock	20-40	---	Moderately cemented	0	---	Low	Hig
532E:								
Klootchie	---	---	---	---	0	---	Low	Hig
Neotsu	Paralithic bedrock	20-40	---	Moderately cemented	0	---	Low	Hig
543F:								
Neotsu	Paralithic bedrock	20-40	---	Moderately cemented	0	---	Low	Hig
Necanicum	---	---	---	---	0	---	Low	Hig
552F:								
Reedsport	Paralithic bedrock	20-40	---	Weakly cemented	0	---	Low	Hig
Tolovana	---	---	---	---	0	---	Low	Hig
555D:								
Templeton	Paralithic bedrock	40-60	---	Weakly cemented	0	---	Low	Hig
Fendall	Paralithic bedrock	20-40	---	Moderately cemented	0	---	None	Hig
556D:								
Tolovana	---	---	---	---	0	---	Low	Hig
Reedsport	Paralithic bedrock	20-40	---	Weakly cemented	0	---	Low	Hig
556E:								
Tolovana	---	---	---	---	0	---	Low	Hig
Reedsport	Paralithic bedrock	20-40	---	Weakly cemented	0	---	Low	Hig

Table 28.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	U
	Kind	Depth to top	Thickness	Hardness	Initial	Total		
		In	*In*		*In*	*In*		
611B:								
Dystrudepts, warm------	---	---	---	---	0	---	Low	Hig
Aquepts, warm----------	---	---	---	---	0	---	Low	Mod
Humaquepts, warm-------	---	---	---	---	0	---	Low	Hig
W:								
Water------------------	---	---	---	---	---	---	---	

Table 29.--Taxonomic Classification of the Soils

(An asterisk in the first column indicates a taxadjunct to the series. See text for a description of those characteristics that are outside the range of the series.)

Soil name	Family or higher taxonomic class
Alic Hapludands	Mesic Alic Hapludands
Apt	Fine, isotic, mesic Typic Haplohumults
Aquepts	Mesic Aquepts
Aquepts	Isomesic Aquepts
Ascar	Medial-skeletal, ferrihydritic, isomesic Typic Fulvudands
Astoria	Fine, isotic, mesic Andic Dystrudepts
Bohannon	Fine-loamy, isotic, mesic Andic Dystrudepts
Braun	Fine-loamy, isotic, mesic Dystric Eutrudepts
Brenner	Fine-silty, mixed, superactive, acid, isomesic Fluvaquentic Humaquepts
Caterl	Medial-skeletal, ferrihydritic, frigid Alic Hapludands
Chitwood	Fine, isotic, isomesic Aquandic Dystrudepts
Condorbridge	Fine-loamy, isotic, isomesic Andic Dystrudepts
Coquille	Fine-silty, mixed, superactive, nonacid, isomesic Fluvaquentic Endoaquepts
Croquib	Medial over loamy-skeletal, ferrihydritic over isotic, acid, isomesic Alic Epiaquands
Depoe	Loamy, isotic, isomesic, ortstein, shallow Typic Duraquods
Dystrudepts	Mesic Dystrudepts
Dystrudepts	Isomesic Dystrudepts
Ecola	Fine-silty, isotic, isomesic Andic Dystrudepts
Euchre	Medial over loamy, ferrihydritic over isotic, acid, isomesic Alic Endoaquands
Fawceter	Medial-skeletal, ferrihydritic, isofrigid Pachic Fulvudands
Fendall	Fine, isotic, isomesic Andic Dystrudepts
Ferrelo	Coarse-loamy, isotic, isomesic Humic Dystrudepts
Flowerpot	Fine, isotic, isomesic Aquandic Dystrudepts
Fluvaquents	Isomesic Fluvaquents
Fluventic Humic Dystrudepts	Isomesic Fluventic Humic Dystrudepts
Gauldy	Coarse-loamy over sandy or sandy-skeletal, mixed, superactive, isomesic Fluventic Humic Dystrudepts
Ginger	Medial over clayey, ferrihydritic over isotic, nonacid, isomesic Typic Melanaquands
Ginsberg	Medial over clayey, ferrihydritic over isotic, mesic Alic Hapludands
Harslow	Medial-skeletal, ferrihydritic, mesic Alic Hapludands
Hebo	Fine, isotic, acid, isomesic Typic Humaquepts
Heceta	Mixed, isomesic Typic Psammaquents
Hembre	Fine-loamy, isotic, mesic Andic Dystrudepts
Hemcross	Medial, ferrihydritic, mesic Alic Hapludands
Histosols	Isomesic Histosols
Horseprairie	Fine-loamy, isotic, isomesic Andic Dystrudepts
Humaquepts	Mesic Humaquepts
Humaquepts	Isomesic Humaquepts
Kilchis	Loamy-skeletal, isotic, mesic Humic Lithic Dystrudepts
Killam	Medial-skeletal, ferrihydritic, isofrigid Pachic Fulvudands
Klickitat	Loamy-skeletal, isotic, mesic Humic Dystrudepts
Klistan	Medial-skeletal, ferrihydritic, mesic Alic Hapludands
Klootchie	Medial, ferrihydritic, isomesic Typic Fulvudands
Knappa	Fine-silty, isotic, isomesic Andic Dystrudepts
Laderly	Medial-skeletal, ferrihydritic, frigid Alic Hapludands
Lebam	Medial over clayey, ferrihydritic over isotic, isomesic Typic Fulvudands
Logsden	Fine-silty, isotic, isomesic Humic Dystrudepts
McDuff	Fine, isotic, mesic Typic Haplohumults
McMille	Fine-silty, isotic, frigid Andic Dystrudepts
Melby	Fine, isotic, mesic Typic Dystrudepts
Mosscreek	Medial, ferrihydritic, isofrigid Pachic Fulvudands
Mues	Medial over loamy-skeletal, ferrihydritic over isotic, isomesic Aquic Fulvudands
Mulkey	Medial, ferrihydritic Pachic Fulvicryands
Munsoncreek	Fine, isotic, isomesic Andic Dystrudepts
Murtip	Medial, ferrihydritic, frigid Alic Hapludands

Table 29.--Taxonomic Classification of the Soils--Continued

Soil name	Family or higher taxonomic class
Mutt	Fine-silty, isotic, frigid Andic Dystrudepts
Necanicum	Medial-skeletal, ferrihydritic, isomesic Typic Fulvudands
Nehalem	Fine-silty, mixed, superactive, isomesic Fluventic Humic Dystrudepts
Neotsu	Medial, ferrihydritic, isomesic Typic Fulvudands
Neskowin	Medial, ferrihydritic, isomesic Typic Fulvudands
Nestucca	Fine-silty, mixed, superactive, acid, isomesic Fluvaquentic Humaquepts
Netarts	Sandy, isotic, isomesic Entic Haplorthods
Newanna	Medial-skeletal, ferrihydritic Typic Fulvicryands
Oxyaquic Fulvudands	Isomesic Oxyaquic Fulvudands
Oxyaquic Hapludands	Mesic Oxyaquic Hapludands
Preacher	Fine-loamy, isotic, mesic Andic Dystrudepts
Quillamook	Medial, ferrihydritic, isomesic Pachic Melanudands
Reedsport	Fine-loamy, isotic, isomesic Andic Dystrudepts
Rinearson	Fine-silty, isotic, mesic Humic Dystrudepts
Salander	Medial, ferrihydritic, isomesic Typic Fulvudands
Scaponia	Fine-loamy, isotic, mesic Typic Dystrudepts
Sevencedars	Medial-skeletal, ferrihydritic Typic Fulvicryands
Siletz	Medial over loamy, ferrihydritic over isotic, isomesic Typic Fulvudands
Skipanon	Fine-loamy, isotic, isomesic Andic Dystrudepts
Svensen	Fine-loamy, isotic, isomesic Andic Dystrudepts
Templeton	Fine-silty, isotic, isomesic Andic Dystrudepts
Tillamook	Medial over loamy, ferrihydritic over isotic, isomesic Aquic Melanudands
Tolke	Medial, ferrihydritic, mesic Alic Hapludands
Tolovana	Medial over loamy, ferrihydritic over isotic, isomesic Typic Fulvudands
Typic Fulvudands	Isomesic Typic Fulvudands
Udifluvents	Isomesic Udifluvents
Udorthents	Isomesic Udorthents
Waldport	Mixed, isomesic Typic Udipsamments
Walluski	Fine-silty, isotic, isomesic Andic Oxyaquic Dystrudepts
Winema	Medial over clayey, ferrihydritic over isotic, isomesic Typic Fulvudands
*Wolfer	Medial over loamy-skeletal, ferrihydritic over isotic, isomesic Typic Fulvudands
Woodspoint	Medial, ferrihydritic Typic Fulvicryands
Yachats	Coarse-loamy, mixed, superactive, isomesic Fluventic Humic Dystrudepts
Yaquina	Sandy, isotic, isomesic Typic Endoaquods

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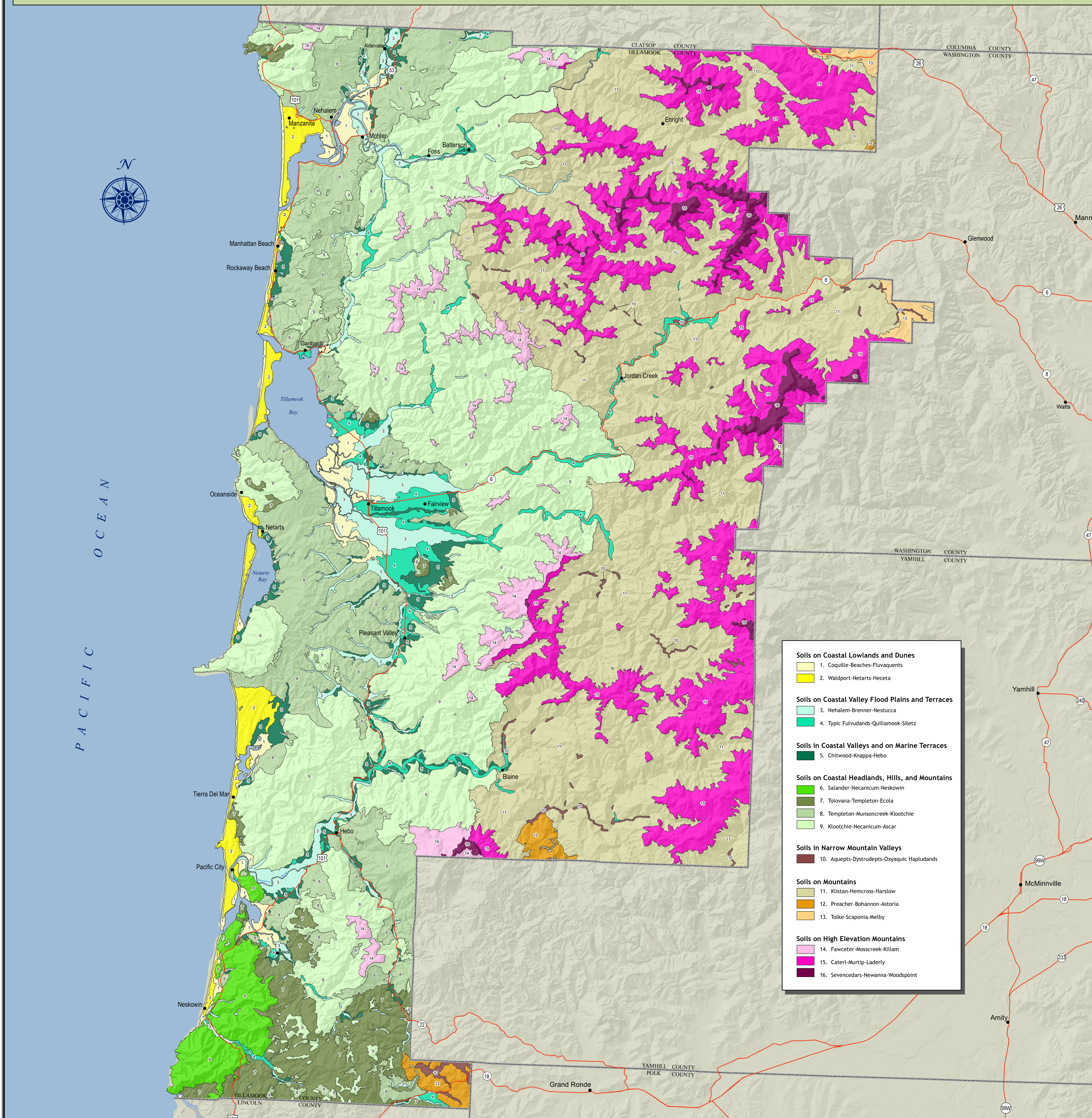
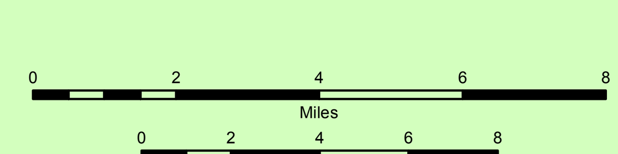
General Soil Map
Tillamook County, Oregon



USDA NRCS
United States Department of Agriculture
Natural Resources Conservation Service

United States Department of Agriculture, Forest Service
United States Department of the Interior, Bureau of Land Management
Oregon Department of Forestry
Oregon State University, Agricultural Experiment Station
Tillamook County Soil and Water Conservation District



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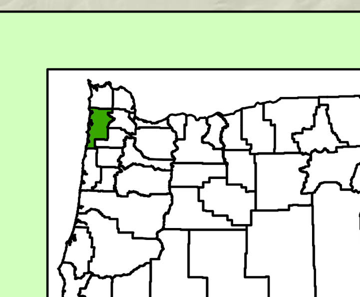

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County Boundaries, cities, and roads are provided by TeleAtlas Dynamap.

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Index to Map Sheets
Tillamook County, Oregon

United States Department of Agriculture, Forest Service
United States Department of the Interior, Bureau of Land Management
Oregon Department of Forestry
Oregon State University, Agricultural Experiment Station
Tillamook County Soil and Water Conservation District

Miles 0 2 4 6 8
Kilometers 0 2 4 6 8

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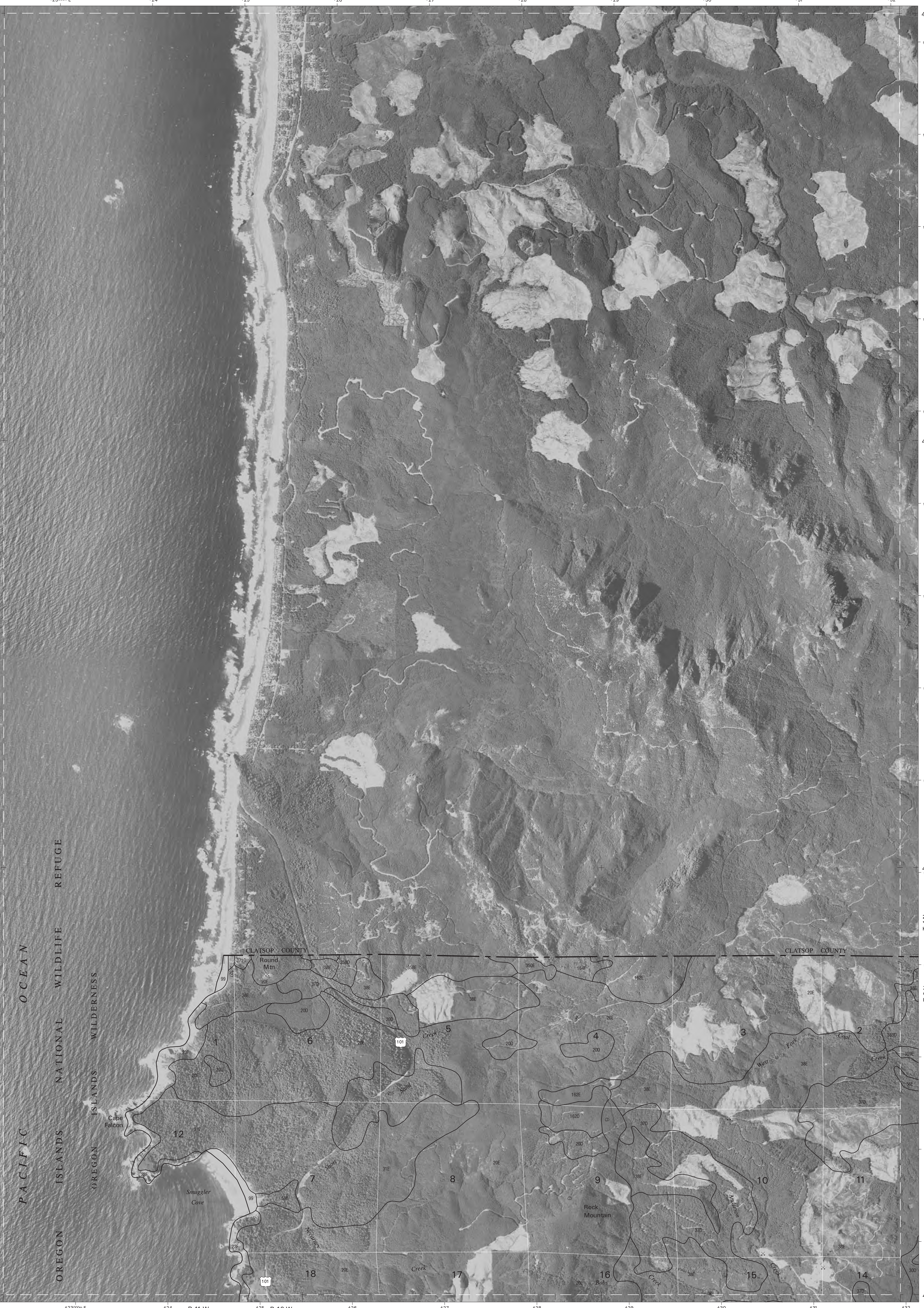

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NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

2 SOAPSTONE LAKE
7 NEHALEM
8 FOLEY PEAK

INDEX TO ADJOINING 7.5 MAPS

ARCH CAPE, OREGON
7.5 MINUTE SERIES
SHEET NUMBER 1 OF 37

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

TILLAMOOK COUNTY, OREGON
ROGERS PEAK QUADRANGLE
SHEET NUMBER 10 OF 37

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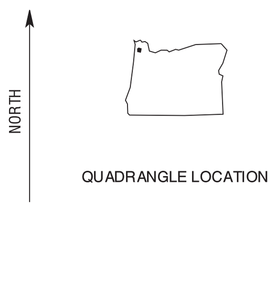

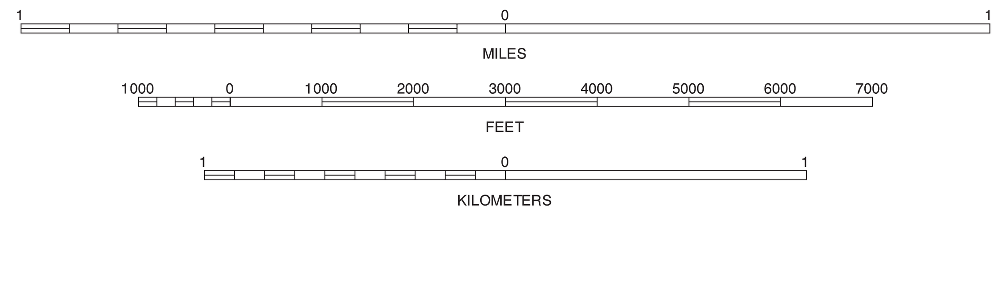

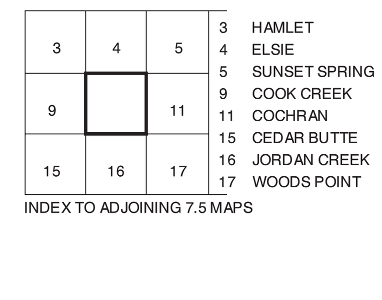

ROGERS PEAK, OREGON
7.5 MINUTE SERIES
SHEET NUMBER 10 OF 37

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TILLAMOOK COUNTY, OREGON
COCHRAN QUADRANGLE
SHEET NUMBER 11 OF 37

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NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

4	5	6
10		12
16	17	18

4 ELSIE
5 SUNSET SPRING
6 CLEAR CREEK
10 ROGERS PEAK
12 TIMBER
16 JORDAN CREEK
17 WOODS POINT
18 ROARING CREEK

INDEX TO ADJOINING 7.5 MAPS

COCHRAN, OREGON
7.5 MINUTE SERIES
SHEET NUMBER 11 OF 37

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TILLAMOOK COUNTY, OREGON
TIMBER QUADRANGLE
SHEET NUMBER 12 OF 37

Joins sheet 6 Clear Creek

Joins sheet 11 Cochran

Joins sheet 18 Roaring Creek

Joins sheet 17 Woods Point

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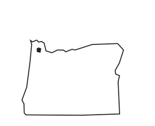
NORTH



QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

5	6	
11		
17	18	

5 SUNSET SPRING
6 CLEAR CREEK
11 COCHRAN
17 WOODS POINT
18 ROARING CREEK

INDEX TO ADJOINING 7.5 MAPS

TIMBER, OREGON

7.5 MINUTE SERIES
SHEET NUMBER 12 OF 37

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TILLAMOOK COUNTY, OREGON
GARIBALDI QUADRANGLE
SHEET NUMBER 13 OF 37

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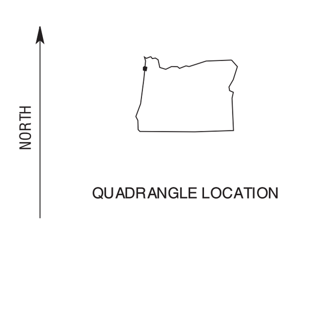

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

	7	8	7 NEHALEM 8 FOLEY PEAK
		14	14 KILCHIS RIVER
	19	20	19 NETARTS 20 TILLAMOOK

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GARIBALDI, OREGON
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SHEET NUMBER 13 OF 37

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

TILLAMOOK COUNTY, OREGON
KILCHIS RIVER QUADRANGLE
SHEET NUMBER 14 OF 37

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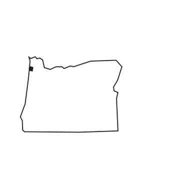
North American Datum of 1983(NAD83). GRS80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 10. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

7	8	9
13		15
19	20	21

7 NEHALEM
8 FOLEY PEAK
9 COOK CREEK
13 GARIBALDI
15 CEDAR BUTTE
19 NETARTS
20 TILLAMOOK
21 THE PENINSULA

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KILCHIS RIVER, OREGON
7.5 MINUTE SERIES
SHEET NUMBER 14 OF 37

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UNITED STATES
DEPARTMENT OF AGRICULTURE
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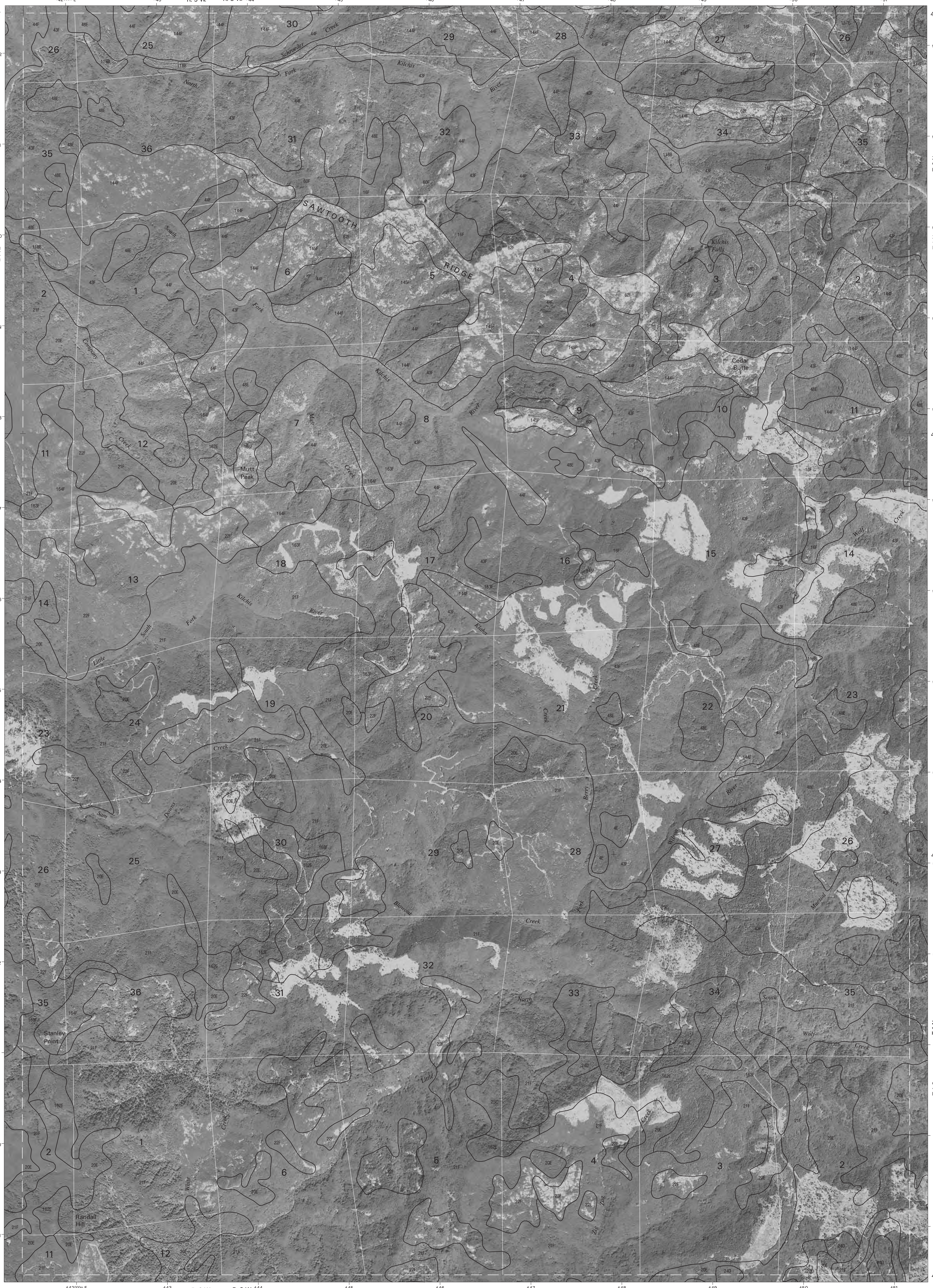
TILLAMOOK COUNTY, OREGON
CEDAR BUTTE QUADRANGLE
SHEET NUMBER 15 OF 37

Joins sheet 8 Foley Peak

Joins sheet 9 Cook Creek

Joins sheet 10 Rogers Peak



Joins sheet 14 Kilchis River

Joins sheet 16 Jordan Creek

Joins sheet 20 Tillamook

Joins sheet 21 The Peninsula

Joins sheet 22 Trask

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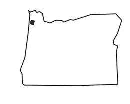
NORTH



QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

8	9	10
14		16
20	21	22

8 FOLEY PEAK
9 COOK CREEK
10 ROGERS PEAK
14 KILCHIS RIVER
16 JORDAN CREEK
20 TILLAMOOK
21 THE PENINSULA
22 TRASK

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TILLAMOOK COUNTY, OREGON
JORDAN CREEK QUADRANGLE
SHEET NUMBER 16 OF 37

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North American Datum of 1983(NAD83). GRS80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 10.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

INDEX TO ADJOINING 7.5 MAPS

9	10	11
15		17
21	22	23

9 COOK CREEK
10 ROGERS PEAK
11 COCHRAN
15 CEDAR BUTTE
17 WOODS POINT
21 THE PENINSULA
22 TRASK
23 GOBBLERS KNOB

JORDAN CREEK, OREGON
7.5 MINUTE SERIES
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Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
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TILLAMOOK COUNTY, OREGON
WOODS POINT QUADRANGLE
SHEET NUMBER 17 OF 37

Joins sheet 10 Rogers Peak

Joins sheet 11 Cochran

Joins sheet 12 Timber

Joins sheet 16 Jordan Creek

Joins sheet 18 Roaring Creek

Joins sheet 22 Trask

Joins sheet 23 Gobblers Knob

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NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES: 1 0 1

FEET: 1000 0 1000 2000 3000 4000 5000 6000 7000

KILOMETERS: 1 0 1

10	11	12
16		18
22	23	

10 ROGERS PEAK
11 COCHRAN
12 TIMBER
16 JORDAN CREEK
18 ROARING CREEK
22 TRASK
23 GOBBLERS KNOB

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UNITED STATES
DEPARTMENT OF AGRICULTURE
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TILLAMOOK COUNTY, OREGON
ROARING CREEK QUADRANGLE
SHEET NUMBER 18 OF 37

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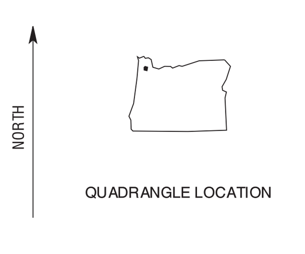

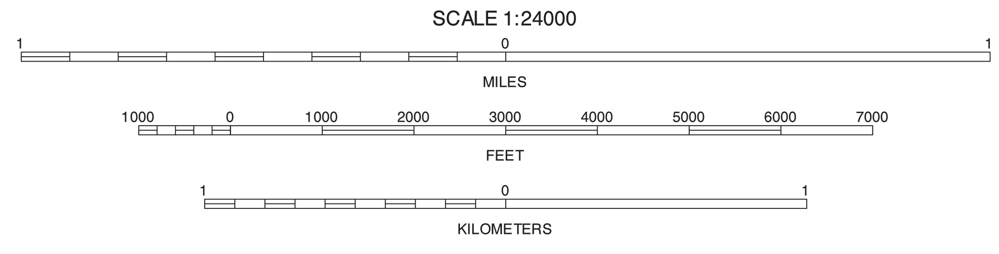

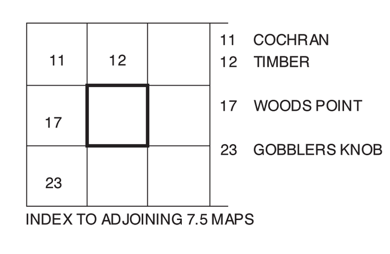

ROARING CREEK, OREGON
7.5 MINUTE SERIES
SHEET NUMBER 18 OF 37

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UNITED STATES
DEPARTMENT OF AGRICULTURE
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TILLAMOOK COUNTY, OREGON
NETARTS QUADRANGLE
SHEET NUMBER 19 OF 37

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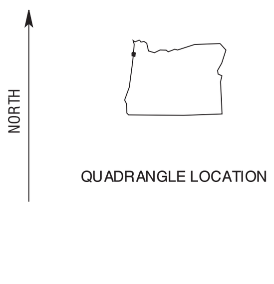
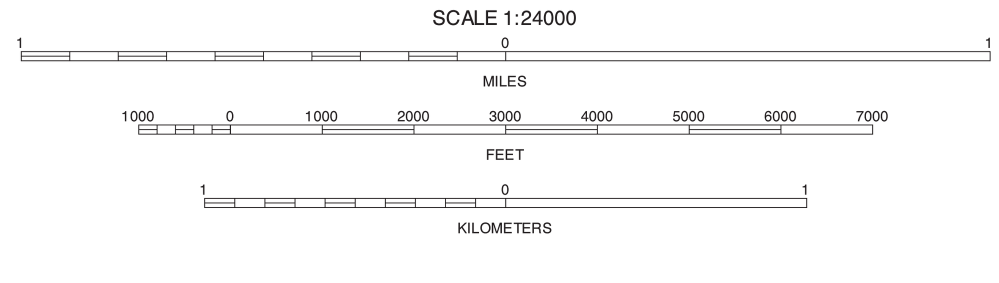


SCALE 1:24000



	13	14
	■	20
	24	25

13 GARIBALDI
14 KILCHIS RIVER
20 TILLAMOOK
24 SAND LAKE
25 BEAVER

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Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

TILLAMOOK COUNTY, OREGON
SOAPSTONE LAKE QUADRANGLE
SHEET NUMBER 2 OF 37

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NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

1 ARCH CAPE
3 HAMLET
7 NEHALEM
8 FOLEY PEAK
9 COOK CREEK

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SOAPSTONE LAKE, OREGON
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UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

TILLAMOOK COUNTY, OREGON
TILLAMOOK QUADRANGLE
SHEET NUMBER 20 OF 37

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NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

13	14	15
19		21
24	25	26

13 GARIBALDI
14 KILCHIS RIVER
15 CEDAR BUTTE
19 NETARTS
21 THE PENINSULA
24 SAND LAKE
25 BEAVER
26 BLAINE

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TILLAMOOK, OREGON
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Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

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DEPARTMENT OF AGRICULTURE
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TILLAMOOK COUNTY, OREGON
THE PENINSULA QUADRANGLE
SHEET NUMBER 21 OF 37

Joins sheet 14 Kilchis River — Joins sheet 15 Cedar Butte — Joins sheet 16 Jordan Creek

Joins sheet 25 Beaver — Joins sheet 26 Blaine — Joins sheet 27 Dovre Peak

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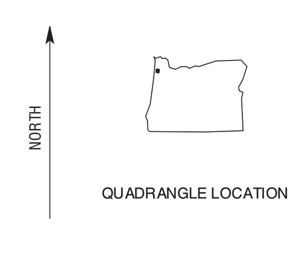

QUADRANGLE LOCATION

SCALE 1:24000

MILES (1 – 0 – 1)

FEET (1000 – 0 – 1000 – 2000 – 3000 – 4000 – 5000 – 6000 – 7000)

KILOMETERS (1 – 0 – 1)

14	15	16
20		22
25	26	27

14 KILCHIS RIVER
15 CEDAR BUTTE
16 JORDAN CREEK
20 TILLAMOOK
22 TRASK
25 BEAVER
26 BLAINE
27 DOVRE PEAK

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THE PENINSULA, OREGON
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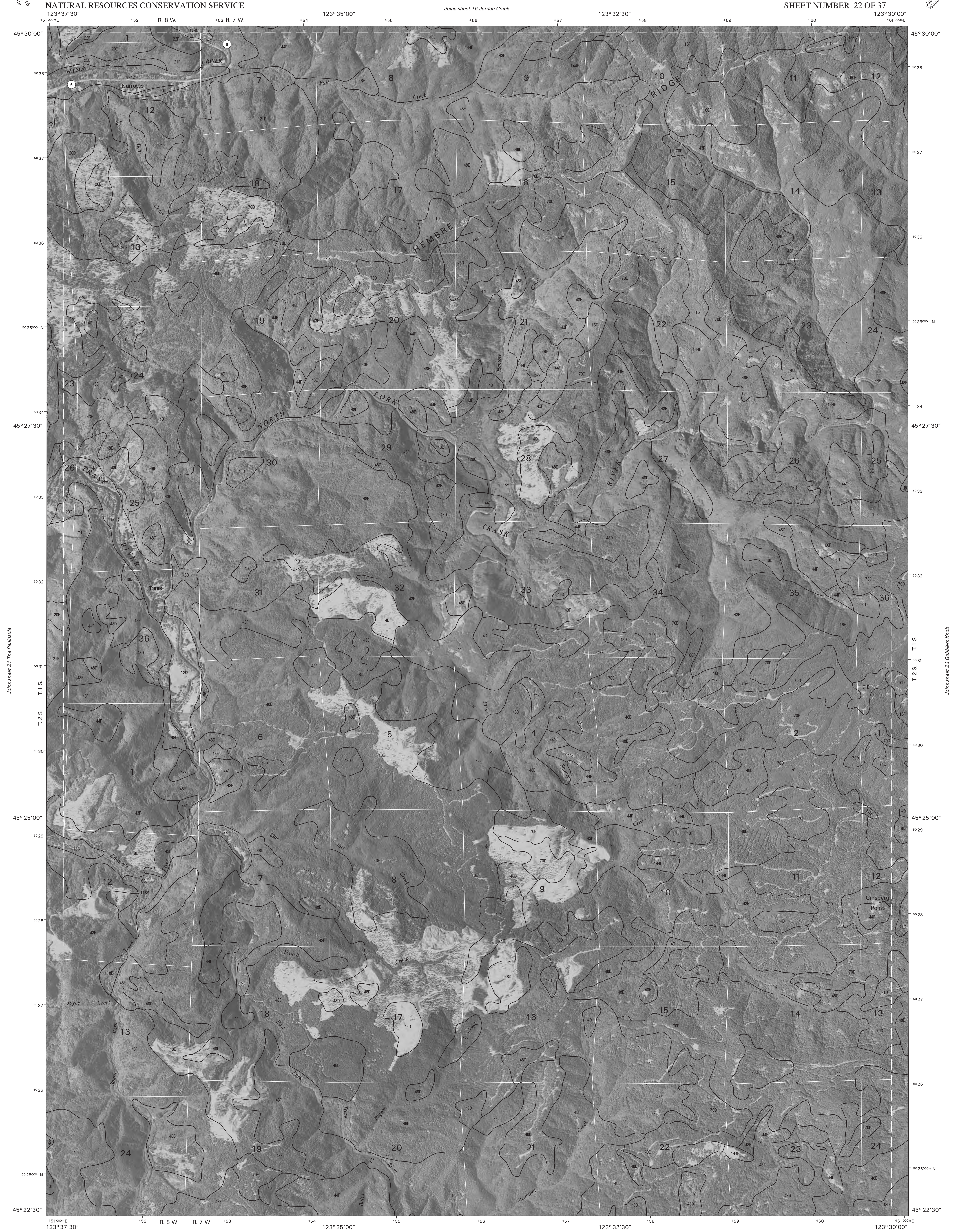
UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

TILLAMOOK COUNTY, OREGON
TRASK QUADRANGLE
SHEET NUMBER 22 OF 37



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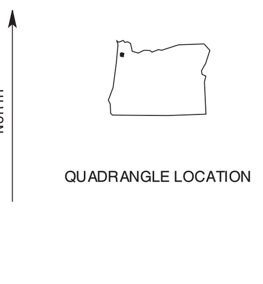
NORTH



QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

15	16	17
21		23
26	27	28

15 CEDAR BUTTE
16 JORDAN CREEK
17 WOODS POINT
21 THE PENINSULA
23 GOBBLERS KNOB
26 BLAINE
27 DOVRE PEAK
28 TRASK MOUNTAIN

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TRASK, OREGON

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Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

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TILLAMOOK COUNTY, OREGON
GOBBLERS KNOB QUADRANGLE
SHEET NUMBER 23 OF 37

Joins sheet 16 Jordan Creek

Joins sheet 17 Woods Point

Joins sheet 18 Roaring Creek

Joins sheet 22 Trask

Joins sheet 27 Dovre Peak

Joins sheet 28 Trask Mountain

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NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

16	17	18
22		
27	28	

INDEX TO ADJOINING 7.5 MAPS

16 JORDAN CREEK
17 WOODS POINT
18 ROARING CREEK
22 TRASK
27 DOVRE PEAK
28 TRASK MOUNTAIN

GOBBLERS KNOB, OREGON
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UNITED STATES
DEPARTMENT OF AGRICULTURE
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TILLAMOOK COUNTY, OREGON
SAND LAKE QUADRANGLE
SHEET NUMBER 24 OF 37

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NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

	19	20
		25
	29	30

19 NETARTS
20 TILLAMOOK
25 BEAVER
29 NESTUCCA BAY
30 HEBO

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SAND LAKE, OREGON
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UNITED STATES
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TILLAMOOK COUNTY, OREGON
BEAVER QUADRANGLE
SHEET NUMBER 25 OF 37

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NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

19	20	21
24		26
29	30	31

19 NETARTS
20 TILLAMOOK
21 THE PENINSULA
24 SAND LAKE
26 BLAINE
29 NESTUCCA BAY
30 HEBO
31 NIAGARA CREEK

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7.5 MINUTE SERIES
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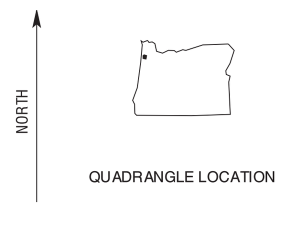

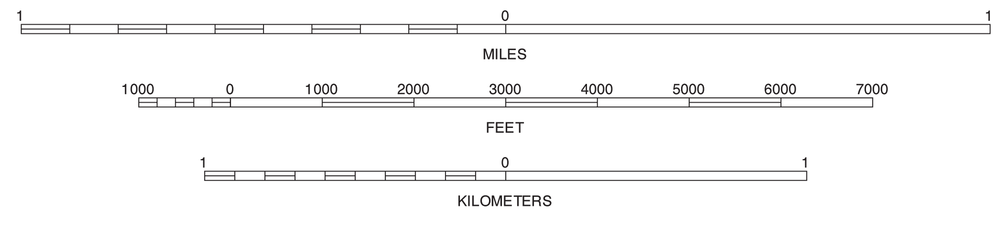

20	21	22
25		27
30	31	32

20 TILLAMOOK
21 THE PENINSULA
22 TRASK
25 BEAVER
27 DOVRE PEAK
30 HEBO
31 NIAGARA CREEK
32 SPRINGER MOUNTAIN

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TILLAMOOK COUNTY, OREGON
DOVRE PEAK QUADRANGLE
SHEET NUMBER 27 OF 37

Joins sheet 21 The Peninsula

Joins sheet 22 Trask

Joins sheet 23 Gobblers Knob

Joins sheet 26 Blaine

Joins sheet 28 Trask Mountain

Joins sheet 31 Niagara Creek

Joins sheet 32 Springer Mountain

Joins sheet 33 Stony Mountain

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NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

21	22	23
26		28
31	32	33

21 THE PENINSULA
22 TRASK
23 GOBBLERS KNOB
26 BLAINE
28 TRASK MOUNTAIN
31 NIAGARA CREEK
32 SPRINGER MOUNTAIN
33 STONY MOUNTAIN

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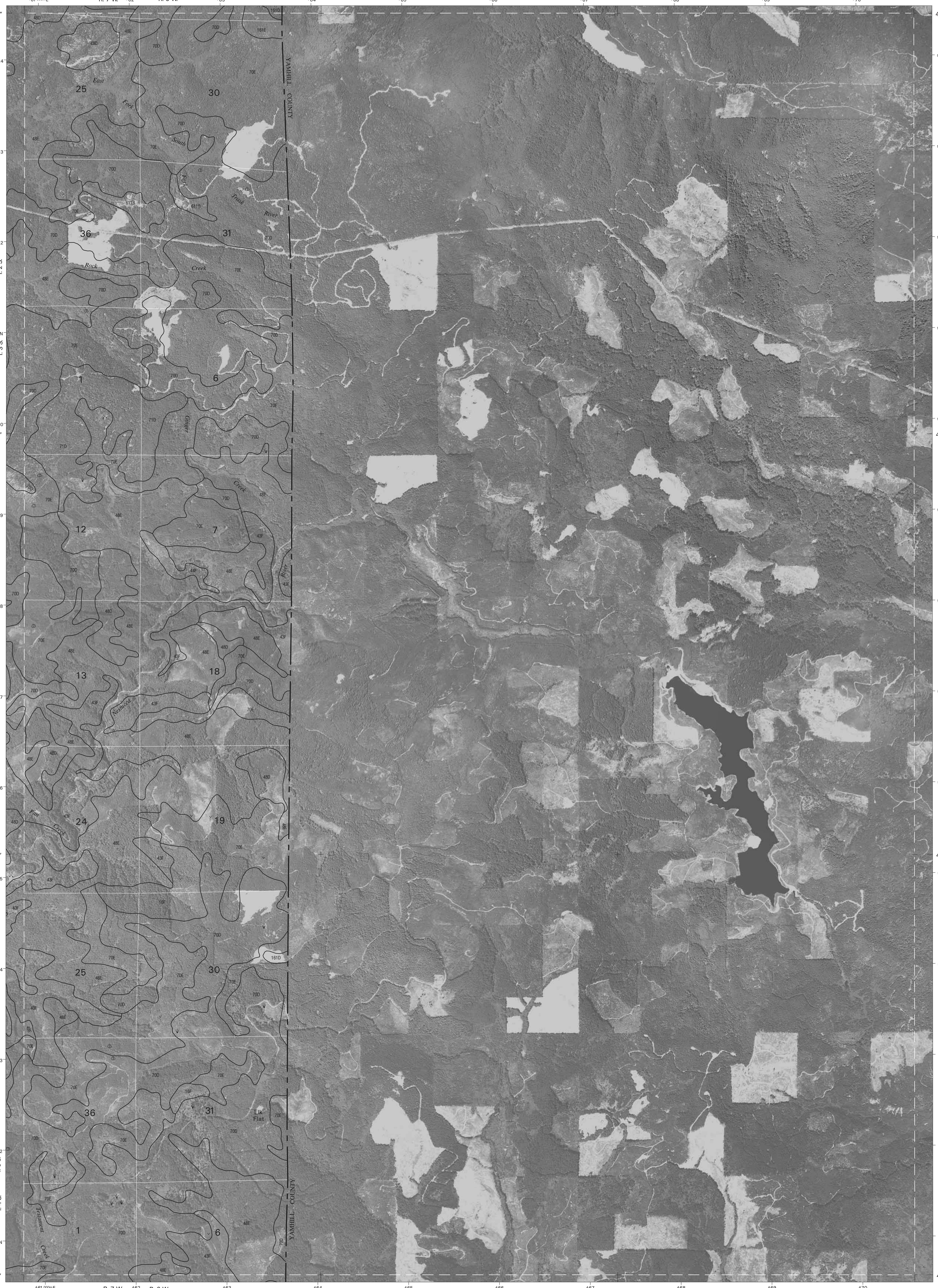
TILLAMOOK COUNTY, OREGON
TRASK MOUNTAIN QUADRANGLE
SHEET NUMBER 28 OF 37

Joins sheet 22 Trask

Joins sheet 23 Gobblers Knob



Joins sheet 27 Dovre Peak

Joins sheet 33 Stony Mountain

Joins sheet 32 Springer Mountain

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NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

INDEX TO ADJOINING 7.5 MAPS

22 TRASK
23 GOBBLERS KNOB
27 DOVRE PEAK
32 SPRINGER MOUNTAIN
33 STONY MOUNTAIN

TRASK MOUNTAIN, OREGON
7.5 MINUTE SERIES
SHEET NUMBER 28 OF 37

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NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

	24	25
		30
34	35	36

24 SAND LAKE
25 BEAVER
30 HEBO
34 NESKOWIN OE W
35 NESKOWIN
36 DOLPH

INDEX TO ADJOINING 7.5 MAPS

NESTUCCA BAY, OREGON
7.5 MINUTE SERIES
SHEET NUMBER 29 OF 37

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

TILLAMOOK COUNTY, OREGON
HAMLET QUADRANGLE
SHEET NUMBER 3 OF 37

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North American Datum of 1983(NAD83). GRS80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 10. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

2		4
8	9	10

2 SOAPSTONE LAKE
4 ELSIE
8 FOLEY PEAK
9 COOK CREEK
10 ROGERS PEAK

INDEX TO ADJOINING 7.5 MAPS

HAMLET, OREGON

7.5 MINUTE SERIES
SHEET NUMBER 3 OF 37

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UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

TILLAMOOK COUNTY, OREGON
HEBO QUADRANGLE
SHEET NUMBER 30 OF 37

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NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

24	25	26
29		31
35	36	37

24 SAND LAKE
25 BEAVER
26 BLAINE
29 NESTUCCA BAY
31 NIAGARA CREEK
35 NESKOWIN
36 DOLPH
37 MIDWAY

INDEX TO ADJOINING 7.5 MAPS

HEBO, OREGON
7.5 MINUTE SERIES
SHEET NUMBER 30 OF 37

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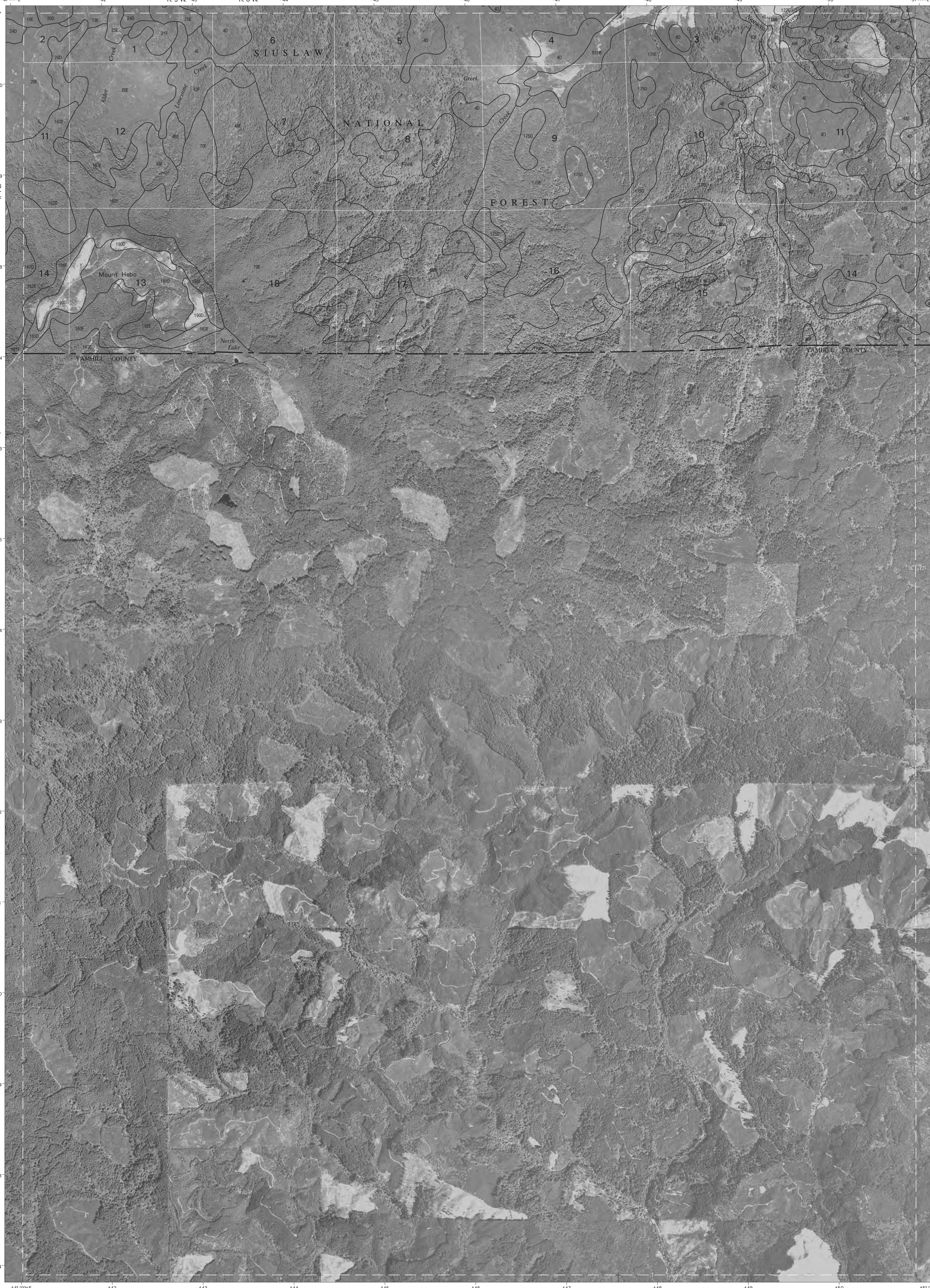
UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

TILLAMOOK COUNTY, OREGON
NIAGARA CREEK QUADRANGLE
SHEET NUMBER 31 OF 37

Joins sheet 25 Beaver

Joins sheet 26 Blaine

Joins sheet 27 Dovre Peak



Joins sheet 30 Hebo

Joins sheet 32 Springer Mountain

Joins sheet 36 Dolph

Joins sheet 37 Midway

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NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

25	26	27
30		32
36	37	

25 BEAVER
26 BLAINE
27 DOVRE PEAK
30 HEBO
32 SPRINGER MOUNTAIN
36 DOLPH
37 MIDWAY

INDEX TO ADJOINING 7.5 MAPS

NIAGARA CREEK, OREGON
7.5 MINUTE SERIES
SHEET NUMBER 31 OF 37

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UNITED STATES
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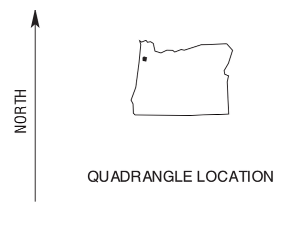

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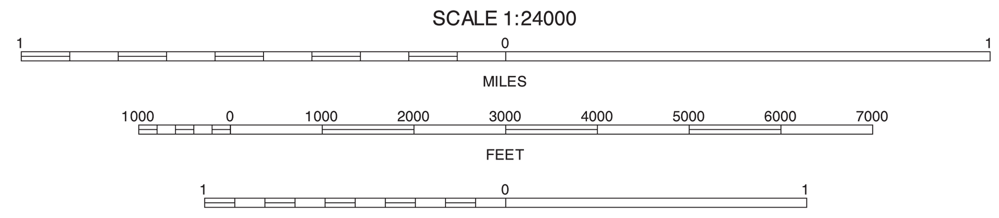

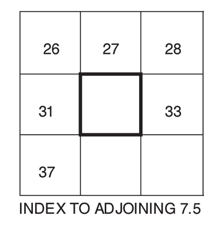

26 BLAINE
27 DOVRE PEAK
28 TRASK MOUNTAIN
31 NIAGARA CREEK
33 STONY MOUNTAIN
37 MIDWAY

INDEX TO ADJOINING 7.5 MAPS

SPRINGER MOUNTAIN, OREGON

7.5 MINUTE SERIES
SHEET NUMBER 32 OF 37

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

Joins sheet 27 Dovre Peak

Joins sheet 28 Trask Mountain

Joins sheet 32 Springer Mountain

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North American Datum of 1983(NAD83). GRS80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 10. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

27	28	
32		

27 DOVRE PEAK
28 TRASK MOUNTAIN
32 SPRINGER MOUNTAIN

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STONY MOUNTAIN, OREGON

7.5 MINUTE SERIES
SHEET NUMBER 33 OF 37

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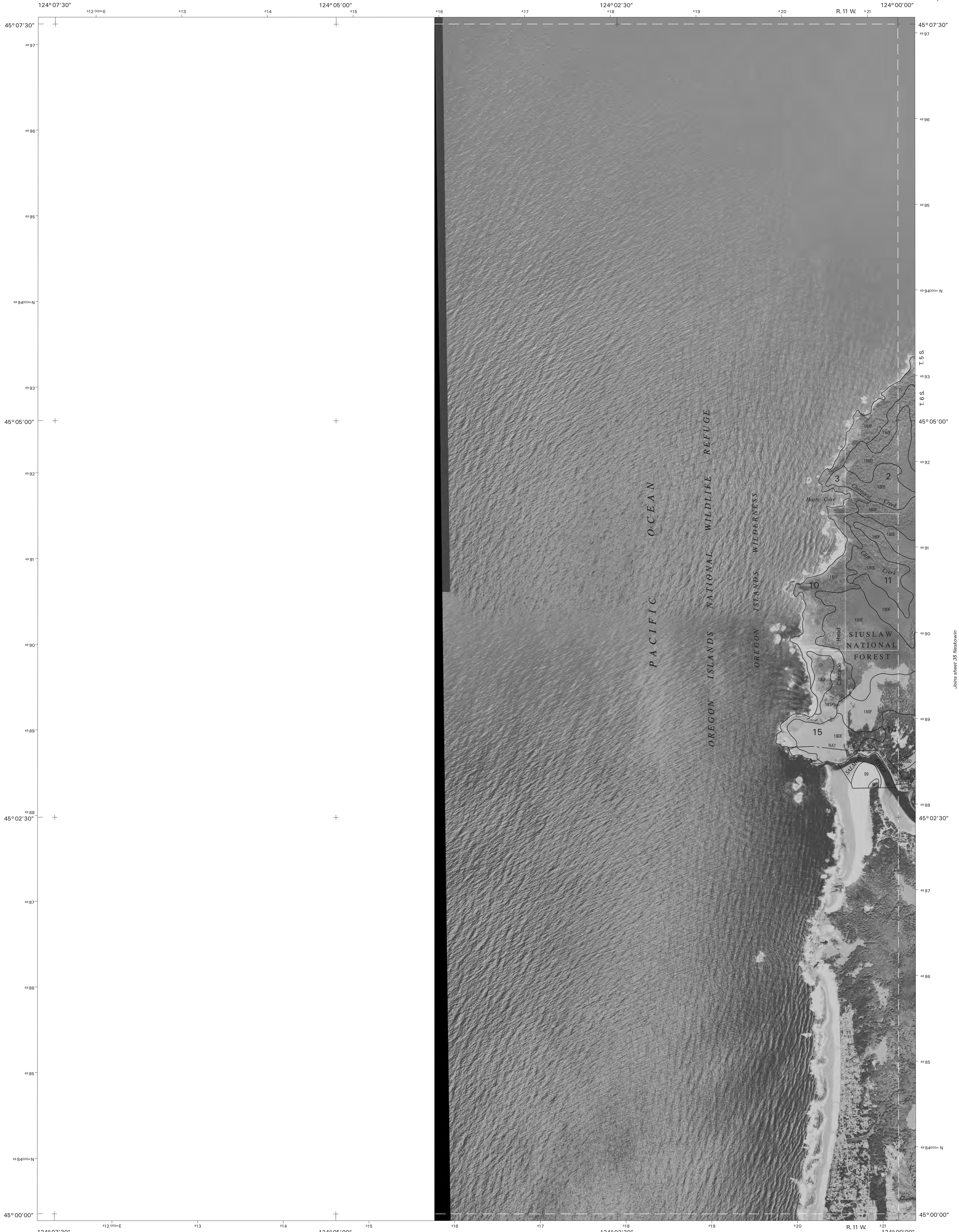
UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

TILLAMOOK COUNTY, OREGON
NESKOWIN OE W QUADRANGLE
SHEET NUMBER 34 OF 37

Joins sheet 29 Nestucca Bay



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NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

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29 NESTUCCA BAY
35 NESKOWIN

NESKOWIN OE W, OREGON
7.5 MINUTE SERIES
SHEET NUMBER 34 OF 37

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

TILLAMOOK COUNTY, OREGON
NESKOWIN QUADRANGLE
SHEET NUMBER 35 OF 37

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North American Datum of 1983(NAD83). GRS80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 10. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

	29	30
34		36

29 NESTUCCA BAY
30 HEBO
34 NESKOWIN OE W
36 DOLPH

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NESKOWIN, OREGON
7.5 MINUTE SERIES
SHEET NUMBER 35 OF 37

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UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

TILLAMOOK COUNTY, OREGON
DOLPH QUADRANGLE
SHEET NUMBER 36 OF 37

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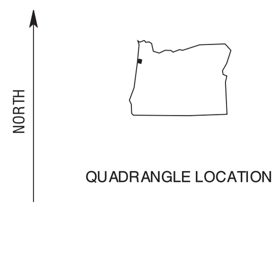

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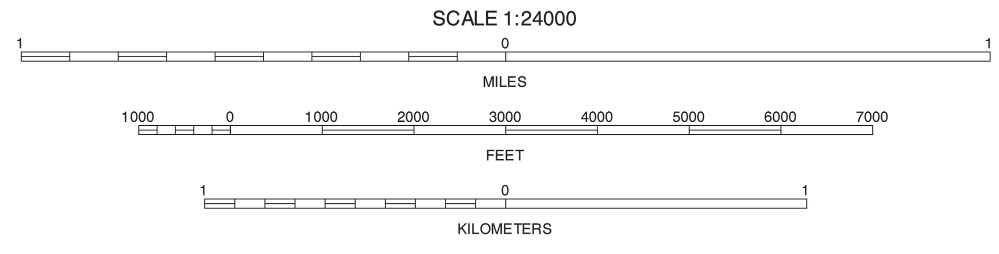

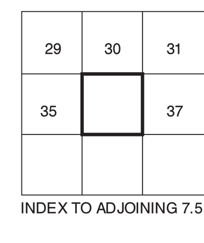

29 NESTUCCA BAY
30 HEBO
31 NIAGARA CREEK
35 NESKOWIN
37 MIDWAY

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DOLPH, OREGON
7.5 MINUTE SERIES
SHEET NUMBER 36 OF 37

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UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

TILLAMOOK COUNTY, OREGON
MIDWAY QUADRANGLE
SHEET NUMBER 37 OF 37

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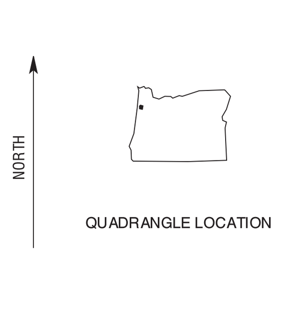

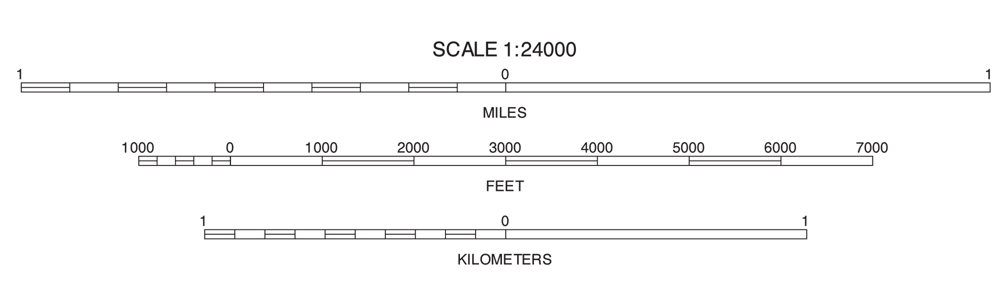

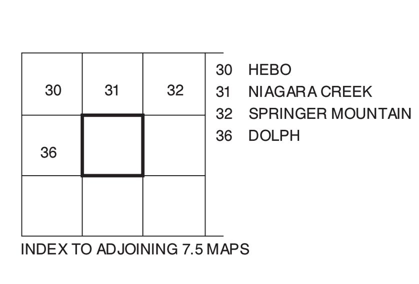

MIDWAY, OREGON
7.5 MINUTE SERIES
SHEET NUMBER 37 OF 37

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

Joins sheet 9 Cook Creek

Joins sheet 11 Cochran

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NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

3		5
9	10	11

3 HAMLET
5 SUNSET SPRING
9 COOK CREEK
10 ROGERS PEAK
11 COCHRAN

INDEX TO ADJOINING 7.5 MAPS

ELSIE, OREGON
7.5 MINUTE SERIES
SHEET NUMBER 4 OF 37

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

TILLAMOOK COUNTY, OREGON
SUNSET SPRING QUADRANGLE
SHEET NUMBER 5 OF 37

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NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

4 ELSIE
6 CLEAR CREEK
10 ROGERS PEAK
11 COCHRAN
12 TIMBER

INDEX TO ADJOINING 7.5 MAPS

SUNSET SPRING, OREGON
7.5 MINUTE SERIES
SHEET NUMBER 5 OF 37

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

TILLAMOOK COUNTY, OREGON
CLEAR CREEK QUADRANGLE
SHEET NUMBER 6 OF 37

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NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

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5 SUNSET SPRING
11 COCHRAN
12 TIMBER

CLEAR CREEK, OREGON
7.5 MINUTE SERIES
SHEET NUMBER 6 OF 37

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UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

TILLAMOOK COUNTY, OREGON
NEHALEM QUADRANGLE
SHEET NUMBER 7 OF 37

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NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

	1	2
		8
	13	14

1 ARCH CAPE
2 SOAPSTONE LAKE
8 FOLEY PEAK
13 GARIBALDI
14 KILCHIS RIVER

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NEHALEM, OREGON
7.5 MINUTE SERIES
SHEET NUMBER 7 OF 37

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UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

TILLAMOOK COUNTY, OREGON
FOLEY PEAK QUADRANGLE
SHEET NUMBER 8 OF 37

Joins sheet 1 Arch Cape

Joins sheet 2 Soapstone Lake

Joins sheet 3 Hamlet

Joins sheet 13 Garibaldi

Joins sheet 14 Kilchis River

Joins sheet 15 Cedar Butte

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NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

1	2	3	1	ARCH CAPE
7		9	2	SOAPSTONE LAKE
13	14	15	3	HAMLET
			7	NEHALEM
			9	COOK CREEK
			13	GARIBALDI
			14	KILCHIS RIVER
			15	CEDAR BUTTE

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FOLEY PEAK, OREGON
7.5 MINUTE SERIES
SHEET NUMBER 8 OF 37

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

Joins sheet 3 Hamlet

Joins sheet 15 Cedar Butte

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NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

2	3	4
8		10
14	15	16

2 SOAPSTONE LAKE
3 HAMLET
4 ELSIE
8 FOLEY PEAK
10 ROGERS PEAK
14 KILCHIS RIVER
15 CEDAR BUTTE
16 JORDAN CREEK

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COOK CREEK, OREGON
7.5 MINUTE SERIES
SHEET NUMBER 9 OF 37

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

TILLAMOOK COUNTY, OREGON

UNITED STATES DEPARTMENT OF THE INTERIOR, BUREAU OF LAND MANAGEMEN
UNITED STATES DEPARTMENT OF AGRICULTURE, FOREST SERVICE
OREGON DEPARTMENT OF FORESTRY
OREGON STATE UNIVERSITY, AGRICULTURAL EXPERIMENT STATION
TILLAMOOK COUNTY SOIL AND WATER CONSERVATION DISTRICT

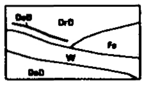
SOIL LEGEND

1A	Brenner silt loam, 0 to 1 percent slopes
2A	Fluvaquents-Histosols complex, 0 to 1 percent slopes
3A	Coquille silt loam, 0 to 1 percent slopes
4D	Ginsberg medial loam, 5 to 30 percent slopes
4E	Ginsberg-Klistan complex, 30 to 60 percent slopes
5E	Ferrelo loam, 30 to 60 percent slopes
6D	Horseprairie-Ferrelo complex, 3 to 20 percent slopes
7	Dune land
8A	Depoe loam, 0 to 3 percent slopes
9B	Waldport fine sand, 0 to 5 percent slopes
9C	Waldport fine sand, 3 to 15 percent slopes
9D	Waldport fine sand, 5 to 30 percent slopes
9E	Waldport fine sand, 30 to 60 percent slopes
10B	Waldport fine sand, thin surface, 0 to 5 percent slopes
10C	Waldport fine sand, thin surface, 3 to 12 percent slopes
10E	Waldport fine sand, thin surface, 15 to 60 percent slopes
11B	Netarts fine sandy loam, 0 to 5 percent slopes
11C	Netarts fine sandy loam, 3 to 12 percent slopes
11D	Netarts fine sandy loam, 5 to 30 percent slopes
11E	Netarts fine sandy loam, 30 to 60 percent slopes
12B	Yaquina loamy fine sand, 0 to 5 percent slopes
13B	Waldport,thin surface-Heceta fine sands, 0 to 5 percent slopes
14A	Heceta fine sand, 0 to 3 percent slopes
15B	Netarts-Yaquina complex, 0 to 5 percent slopes
16F	Caterl-Laderly-Murtip complex, 60 to 90 percent slopes
17B	Chitwood-Hebo complex, 0 to 5 percent slopes
18B	Chitwood medial silt loam, 0 to 7 percent slopes
18C	Chitwood medial silt loam, 7 to 15 percent slopes
19E	Klootchie medial silt loam, 30 to 60 percent slopes
20D	Klootchie-Necanicum complex, 5 to 30 percent slopes
20E	Klootchie-Necanicum complex, 30 to 60 percent slopes
21F	Necanicum-Ascar-Klootchie complex, 60 to 90 percent slopes
22F	Ascar-Necanicum-Rock outcrop complex, 60 to 90 percent slopes
23F	Rock outcrop-Ascar complex, 40 to 100 percent slopes
24C	Lebam medial silt loam, 3 to 12 percent slopes
24D	Lebam medial silt loam, 5 to 30 percent slopes
25E	Lebam-Necanicum complex, 30 to 60 percent slopes
26F	Lebam-Necanicum complex, 60 to 90 percent slopes
28D	Templeton-Necanicum complex, 5 to 30 percent slopes
29D	Templeton-Klootchie complex, 5 to 30 percent slopes
29E	Templeton-Klootchie complex, 30 to 60 percent slopes
30D	Templeton medial silt loam, 5 to 30 percent slopes
30E	Templeton-Ecola medial silt loams, 30 to 60 percent slopes
30F	Templeton-Ecola medial silt loams, 60 to 90 percent slopes
31D	Tolovana-Templeton medial silt loams, 5 to 30 percent slopes
31E	Tolovana-Templeton medial silt loams, 30 to 60 percent slopes
32D	Munsoncreek-Flowerpot complex, 5 to 30 percent slopes
32E	Munsoncreek-Templeton medial silt loams, 30 to 60 percent slopes
33D	Tolovana medial silt loam, 5 to 30 percent slopes
37D	Templeton-Skipanon complex, 5 to 30 percent slopes
37E	Templeton-Skipanon complex, 30 to 60 percent slopes
38E	Templeton-Necanicum complex, 30 to 60 percent slopes
43F	Klistan-Harslow-Hemcross complex, 60 to 90 percent slopes
44E	Klistan-Harslow-Rock outcrop complex, 30 to 60 percent slopes
44F	Harslow-Klistan-Rock outcrop complex, 60 to 90 percent slopes
45B	Hebo silty clay loam, 0 to 5 percent slopes
48D	Hemcross-Klistan complex, 5 to 30 percent slopes
48E	Hemcross-Klistan complex, 30 to 60 percent slopes
50B	Walluski medial silt loam, 0 to 7 percent slopes
51B	Walluski-Chitwood medial silt loams, 0 to 7 percent slopes
51C	Walluski-Chitwood medial silt loams, 3 to 15 percent slopes
54B	Knappa medial silt loam, 0 to 7 percent slopes
55A	Histosols-Water complex, 0 to 1 percent slopes
56B	Wolfer medial silt loam, 0 to 5 percent slopes
56C	Wolfer medial silt loam, 3 to 15 percent slopes
57B	Condorbridge gravelly medial loam, 0 to 7 percent slopes
57C	Condorbridge gravelly medial loam, 3 to 15 percent slopes
58C	Knappa medial silt loam, 3 to 15 percent slopes
59B	Chitwood-Knappa medial silt loams, 0 to 7 percent slopes
60E	Caterl-Laderly-Rock outcrop complex, 30 to 60 percent slopes
60F	Laderly-Caterl-Rock outcrop complex, 60 to 90 percent slopes
61F	Laderly-Rock outcrop-Caterl complex, 60 to 90 percent south slopes
62F	Rock outcrop-Laderly complex, 40 to 100 percent slopes
70D	Murtip-Caterl-Laderly complex, 5 to 30 percent slopes
70E	Murtip-Caterl-Laderly complex, 30 to 60 percent slopes
71D	McMille-Mutt medial silt loams, 5 to 30 percent slopes
72D	Caterl-Murtip complex, clayey, 5 to 30 percent slopes
73A	Nehalem silt loam, 0 to 3 percent slopes, frequently flooded
74A	Nehalem silt loam, 0 to 3 percent slopes
76A	Nestucca silt loam, 0 to 3 percent slopes
77A	Nestucca-Brenner silt loams, 0 to 3 percent slopes
80B	Quillamook medial silt loam, 0 to 7 percent slopes
81B	Quillamook complex, 0 to 7 percent slopes
81C	Quillamook complex, 3 to 15 percent slopes
89A	Udifluvents-Riverwash-Water complex, 0 to 3 percent slopes
90A	Yachats very fine sandy loam, 0 to 3 percent slopes
91A	Gauldy loam, 0 to 3 percent slopes
92A	Yachats-Gauldy complex, 0 to 3 percent slopes
93B	Gauldy complex, 0 to 5 percent slopes
94B	Ginger-Quillamook-Urban land complex, 0 to 7 percent slopes
95B	Urban land-Quillamook complex, 0 to 7 percent slopes
96B	Ginger-Hebo complex, 0 to 5 percent slopes
99	Beaches
100B	Urban land-Udorthents complex, 0 to 7 percent slopes
101B	Urban land-Udorthents complex, 0 to 7 percent slopes, flooded
102A	Fluvaquents-Histosols complex, 0 to 1 percent slopes, diked
103A	Coquille silt loam, 0 to 1 percent slopes, diked
104A	Coquille-Brenner-Nehalem association, 0 to 3 percent slopes, protected
110F	Waldport fine sand, thin surface, 60 to 90 percent slopes
115A	Aquepts, 0 to 1 percent slopes
116A	Aquepts, warm, 0 to 1 percent slopes
118B	Oxyaquic Hapludands-Alic Hapludands complex, 0 to 7 percent slopes
119B	Oxyaquic Fulvudands-Typic Fulvudands complex, 0 to 7 percent slopes
120C	Alic Hapludands complex, 3 to 15 percent slopes
121D	Fendall-Munsoncreek medial silt loams, 5 to 30 percent slopes
125B	Siletz medial silt loam, 0 to 7 percent slopes
126B	Siletz medial silt loam, warm, 0 to 7 percent slopes
127C	Condorbridge gravelly medial loam, warm, 3 to 15 percent slopes
128B	Siletz-Wolfer medial silt loams, 0 to 7 percent slopes
144F	Harslow-Rock outcrop-Klistan complex, 60 to 90 percent south slopes
145F	Rock outcrop-Harslow complex, 40 to 100 percent slopes
156F	Sevencedars-Newanna complex, 60 to 90 percent slopes
157D	Caterl very cobbly medial loam, till substratum, 5 to 30 percent slopes
157E	Caterl very cobbly medial loam, till substratum, 30 to 60 percent slopes
157F	Caterl very cobbly medial loam, till substratum, 60 to 90 percent slopes
158D	Sevencedars very cobbly medial loam, till substratum, 5 to 30 percent slopes
158E	Sevencedars very cobbly medial loam, till substratum, 30 to 60 percent slopes
158F	Sevencedars very cobbly medial loam, till substratum, 60 to 90 percent slopes
159D	Sevencedars very cobbly medial loam, clayey, 5 to 30 percent slopes
161D	Sevencedars-Newanna-Woodspoint complex, 5 to 30 percent slopes
161E	Sevencedars-Newanna-Woodspoint complex, 30 to 60 percent slopes
161F	Newanna-Sevencedars-Rock outcrop complex, 60 to 90 percent slopes
162D	Mosscreek-Fawceter complex, 5 to 30 percent slopes
162E	Mosscreek-Fawceter complex, 30 to 60 percent slopes
163F	Fawceter-Killam-Mosscreek complex, 60 to 90 percent slopes
164F	Killam-Fawceter-Rock outcrop complex, 60 to 90 percent slopes
166F	Rock outcrop-Killam complex, 40 to 100 percent slopes
170A	Logsden silt loam, 0 to 3 percent slopes
170B	Logsden-Nehalem silt loams, 0 to 5 percent slopes
173B	Tillamook-Ginger medial silt loams, 0 to 7 percent slopes
173C	Tillamook-Ginger medial silt loams, 3 to 15 percent slopes
174C	Typic Fulvudands complex, 3 to 15 percent slopes
175D	Astoria medial silt loam, 5 to 30 percent slopes
176D	Preacher-Bohannon complex, 5 to 35 percent slopes
176E	Preacher-Bohannon complex, 35 to 60 percent slopes
177B	Dystrudepts-Aquepts complex, 0 to 7 percent slopes
178B	Fluventic Humic Dystrudepts-Dystrudepts-Aquepts complex, 0 to 5 percent slopes
180D	Salander medial silt loam, 5 to 30 percent slopes
180E	Salander-Necanicum complex, 30 to 60 percent slopes
180F	Salander-Necanicum-Neskowin complex, 60 to 90 percent slopes
181E	Neskowin-Salander medial loams, 30 to 60 percent slopes
181F	Neskowin-Rock outcrop-Necanicum complex, 60 to 100 percent slopes
182D	Neotsu-Salander medial loams, 5 to 30 percent slopes
183D	Winema-Fendall medial silt loams, 5 to 30 percent slopes
185F	Udorthents-Rock outcrop complex, 60 to 100 percent slopes
190D	Mulkey medial loam, 5 to 30 percent slopes
191B	Siletz-Euchre medial silt loams, 0 to 7 percent slopes
192A	Yachats very fine sandy loam, 0 to 3 percent slopes, occasional flooding
303F	Ascar-Rock outcrop complex, 60 to 90 percent slopes
307F	Braun-Scaponia silt loams, 60 to 90 percent slopes
309D	Caterl-Laderly complex, 3 to 30 percent slopes
309E	Caterl-Laderly complex, 30 to 60 percent slopes
314A	Croquib medial silt loam, 0 to 3 percent slopes
322F	Harslow-Kilchis very gravelly medial loams, 60 to 90 percent slopes
327	Dystrudepts, steep, 25 to 60 percent slopes
328	Dystrudepts-Humaquepts complex, 0 to 20 percent slopes
329F	Kilchis-Rock outcrop complex, 60 to 90 percent slopes
338F	Laderly-Rock outcrop complex, 60 to 90 percent slopes
342D	McMille medial silt loam, 3 to 30 percent slopes
345A	Mues medial silt loam, 0 to 3 percent slopes
346D	Murtip medial loam, 3 to 30 percent slopes
347E	Murtip-Caterl complex, 30 to 60 percent slopes
350E	Necanicum-Ascar complex, 30 to 60 percent slopes
356D	Rinearson silt loam, 3 to 30 percent slopes
357E	Scaponia-Braun silt loams, 30 to 60 percent slopes
358D	Skipanon gravelly medial silt loam, 3 to 30 percent slopes
358E	Skipanon gravelly medial silt loam, 30 to 60 percent slopes
359D	Svensen medial loam, 3 to 30 percent slopes
359E	Svensen medial loam, 30 to 60 percent slopes
363D	Tolke medial silt loam, 5 to 30 percent slopes
371C	Walluski silt loam, 7 to 15 percent slopes
403E	Astoria medial silt loam, 30 to 60 percent slopes
420E	Hembre medial silt loam, 30 to 60 percent slopes
420F	Hembre medial silt loam, 60 to 90 percent slopes
425E	Klickitat stony loam, 30 to 60 percent slopes
433D	Melby silt loam, 5 to 30 percent slopes
433E	Melby silt loam, 30 to 60 percent slopes
439E	Tolke medial silt loam, 30 to 60 percent slopes
501D	Apt-McDuff complex, 5 to 30 percent slopes
501E	Apt-McDuff complex, 30 to 50 percent slopes
517A	Euchre medial silt loam, 0 to 3 percent slopes
519D	Fendall-Winema medial silt loams, 15 to 35 percent slopes
532D	Klootchie-Neotsu medial silt loams, 3 to 30 percent slopes
532E	Klootchie-Neotsu medial silt loams, 30 to 60 percent slopes
543F	Neotsu-Necanicum complex, 60 to 90 percent slopes
552F	Reedsport-Tolovana complex, 60 to 85 percent slopes
555D	Templeton-Fendall medial silt loams, 5 to 35 percent slopes
556D	Tolovana-Reedsport complex, 3 to 35 percent slopes
556E	Tolovana-Reedsport complex, 35 to 60 percent slopes
611B	Dystrudepts-Aquepts-Humaquepts complex, warm, 0 to 7 percent slopes
W	Water

CONVENTIONAL AND SPECIAL SYMBOLS LEGEND

SOIL SURVEY FEATURES

SOIL DELINEATIONS AND LABELS



ROAD EMBLEMS

Interstate 

Federal 

State 

Other 

CULTURAL FEATURES

National, state or province

County or parish

Reservation (national or state forest or park)

Limit of soil survey (label)

Public Land Survey System Section Boundary

Label	Feature	Symbol	Size (Ac)
GPI	Gravel pit	✕	0.25 to 10
ROC	Rock outcrop	∨	0.25 to 2
STV	Very stony spot	ꝏ	0.25 to 1
WET	Wet spot	Ɏ	0.25 to 2
ORG	Organic soil	⊕	0.25 to 4

DEFINITIONS

Label	Feature	Definition
GPI	Gravel pit	An open excavation from which soil and underlying material have been removed and used, without crushing, as a source of sand or gravel.
ROC	Rock outcrop	An exposure of bedrock at the surface of the earth. Not used where the named soils of the surrounding map unit are shallow over bedrock or where Rock outcrop is a named component of the map unit.
STV	Very stony spot	A spot where 0.1 to 3 percent of the surface cover is rock fragments that are greater than 10 inches in diameter where the surrounding soil has less than 0.01 percent of the surface cover of stones.
WET	Wet spot	A somewhat poorly drained to very poorly drained area that is at least two drainage classes wetter than the named soils in the surrounding map unit.
ORG	Organic soil	Area of poorly drained or very poorly drained organic soil material.